THURSDAY, DECEMBER 15, 1870.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON A CASE OF LATENT PLEURISY, AND ON A CASE OF LATENT VALVULAR DISEASE OF THE HEART.

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(Concluded.)

THE other example of latent disease which I propose to analyze is furnished by a case of organic or structural disease of the heart.

CASE II.—M. R. is about 40 years old, by birth a German, unmarried, a laborer, of temperate habits, and, until his present illness, supposed himself a healthy man. Four weeks ago he fell into a cellar and fractured his right clavicle; but the injury received no appropriate treatment. A week after the accident, he observed that his right foot was swollen, and within a few days the swelling invaded the opposite leg, the upper limbs, and the trunk; but the face is stated not to have been affected, or but slightly so. He was admitted into the surgical ward on February 7, and three days afterwards (yesterday) was transferred to the medical department. The feet, legs, scrotum, abdomen, and right hand are now tumid, and the skin pits when pressed. The external jugular veins on both sides are much distended, and pulsate synchronously with the radial pulse and the apex-beat of the heart. Around the right clavicle, which is fractured and pretty firmly consolidated by a large mass of callus, the skin is greatly ecchymosed. *Percussion* over both lungs anteriorly gives a tolerably clear resonance; but behind there is dulness over nearly the whole of the right and the lower part of the left lung, the upper boundary-line of the dulness varying with the position of the patient. On *auscultation*, exaggerated respiration is heard over the upper portion of the left lung, in front and behind, while the respiratory murmur of the lower part is very feeble. On the right side the respiration is everywhere feeble, and is more or less associated with subcrepitus, and at the root of the lung bronchial breathing and voice are heard. The sounds of the *heart* are audible within a larger area than natural, and its mass, as indicated by percussion, is unusually great. At and beyond the apex of the heart a loud, rough double murmur takes the place of the first sound; and at the right edge of the sternum, near its lower part, a systolic murmur similar in time and quality, but of a very different pitch, is audible. The pulse is 96, soft, not irregular, although somewhat unequal. The liver seems to be enlarged; it extends nearly an inch and a half below the base of the chest. The cough is troublesome, and the abundant sputa consist either of clear blood or of frothy and bloody mucus. The urine is acid and albuminous, and contains tube-casts. Enough of the secretion could not be obtained to determine its specific gravity.

If anything is evident in this case, it is the dropsy, and the heart-lesions upon which the dropsy ultimately depends. The valvular lesions are abundantly distinct, but of their origin we know nothing; their commencement and their progress were alike latent; for the patient is very positive that before the accident which has been alluded to in the history of the case he had suffered from no sickness whatever, and we know with absolute certainty that such lesions as the physical signs and the rational symptoms indicate could not have arisen since the fall which the patient met with.

The phenomena which present themselves are essentially these: as symptoms, general anasarca, effusion into the peritoneal and both pleural cavities, bloody expectoration, and albuminous urine, and, probably, enlargement of the liver; as lesions, deficiency of the tricuspid and mitral valves, and, probably, contraction of the mitral orifice of the heart. In what order did these phenomena arise, and what is their mechanism? To find your way through a labyrinth, a clue is necessary; and the proper mode of using the clue is to seize its end and follow it to its beginning. But here we can do neither: the ultimate termination is in the darkness of the future, and the commencement is equally hidden in the obscure past. Let us, then, see whither we are guided by the phenomena that are actually before us.

The first medical fact which we can perceive in the case is the injury which was occasioned by a fall about a month ago. The most striking consequence of this fall was a very bad fracture of the right clavicle, with an extensive bruising of the adjacent integuments. A week afterwards dropsy began in the right foot, and soon involved the whole body. What connection had the fall and its immediate consequences with the dropsy? The mere mechanical injury could not have produced such an effect. But the circumstances under which the injury was received may lend us some light. The man fell into a cellar,—a cold and damp place at any season, but especially so in midwinter. How long he lay there we are not informed; but it is perfectly intelligible that if he did catch cold in that place, so as to bring on a congestion of the lung or a pneumonia, the phenomena of these affections were very likely to be masked by the more evident and painful ones belonging to the bruised chest and broken clavicle. That the right lung is more or less solidified, the physical signs demonstrate; and that it is engorged, the bloody expectoration proves. The facts and the proposed explanation of them perfectly agree; and provisionally the condition of the right lung may be attributed to cold acting upon the patient when he was exhausted by his severe injury.

But, as you have seen, the most striking feature of the case is dropsy,—general dropsy,—and with it, on one hand, obstructive valvular disease of the heart; on another, albuminous urine; and, on still another, apparent enlargement of the liver. Is there any natural relation of interdependence among these several morbid elements? Is it probable that the obstruction of the heart, which has all the characters which belong to heart-lesions of long standing and slow development, could have been occasioned by the fall and the fracture which was its consequence? To believe so would violate all the probabilities which grow out of a fair interpretation of physical signs and the laws of morbid anatomy. On the other hand, it is much more probable that these evident heart-lesions *had existed for a long time, although the patient was not conscious of any suffering from them;* because it is of every day's experience that serious organic alterations of the heart are discovered in persons who consult us for quite other affections, and who have no suspicion of suffering from heart-disease. The reason of their unconsciousness is simply this,—that the heart-lesions, although so palpable upon physical examination, are of such a nature as to compensate one another and prevent those obstructions of the circulation which occasion palpitation, difficulty of breathing, and dropsy, which are the most significant evidences of organic disease of the heart.

Now, in order that such heart-lesions should occasion no symptoms, it is essential that the communication between the two sides of the heart through the pulmonary circulation should be free. In our patient's case it probably was so until the occurrence of his accident, at which time, as we have supposed, he must also have got cold, for we found him suffering from engorgement of the right lung. Immediately upon this occurrence, the balance between the cardiac, pulmonary, and systemic circulations was destroyed, the venous system was

engorged, the sputa became mixed with blood, general dropsy ensued by the percolation of the water of the blood through the veins, the kidneys became congested and the urine albuminous, and the liver and the portal veins distended. The engorgement of the systemic veins is illustrated not only by the dropsy, but also, and still more distinctly, by the blueness or cyanotic color of the feet, the thighs, and other parts, which is in this case, as in all others, a proof that the venous radicles are so much dilated that the color of their contained blood usurps the place of the arterial tint which belongs to the healthy skin. Another phenomenon of an analogous nature is the persistent ecchymosis around the seat of injury. You observe that, although the accident which occasioned this discoloration occurred four weeks ago, the black and blue and yellow colors are still very distinct; and this unusual persistence can, I think, be explained only by the venous stagnation, which hinders, of course, the absorption of the effused blood.

Observe, now, that the integuments at the root and on the sides of the neck rise and fall with the pulsations of the heart, and that as they rise the veins become distended, and as they subside the veins collapse. In one word, these veins pulsate. You know that they communicate, through the vena cava superior, with the right auricle of the heart, and that, in the healthy condition of this organ, every systole of its ventricles would drive the blood back into the auricles and into the veins behind them, were it not for the interference of the auriculo-ventricular valves. Therefore, as it is evident that the blood does regurgitate, at every contraction of the heart, from the right ventricle into the veins, we must infer that the tricuspid valve is deficient. But this is not all. When we auscult the heart at the lower end of the sternum, and even to the right of that bone, a murmur is very distinctly heard, synchronously with the swelling of the veins in the neck and also with the apex-beat. The only mechanism to which it can be attributed is the backward rush of the blood through the tricuspid orifice, and probably over a surface that is rough, or through some narrow channel in the insufficient valve. As the murmur is soft, the latter explanation is probably the correct one; to which reason may be added that the irregularities of surface which generate harsh murmurs rarely occur upon the right side of the heart. On ausculting, now, near the left nipple, we hear another murmur. It is different in tone from the first, being as harsh as the first was soft, and it differs from the latter, also, in being double, while that is single. If we pass the stethoscope slowly from the left nipple towards the right edge of the sternum, and *vice versa*, we at once learn that at these two points the murmurs have respectively a maximum intensity, and that as we recede from the one point and approach the other the quality of either sound grows less distinct, and both, finally, are merged into one, which has not the peculiar tone of either. Thus it is evident that the two originate at different points,—the one in the tricuspid, the other in the mitral orifice. Moreover, as the former is soft and the latter is harsh, we may conclude that the harshness of the latter is due to some hardness and irregularity of the mitral valve or of the edge of its orifice. But the mitral murmur is also a double one, both systolic and diastolic; it is composed of two parts, a longer and harsher, and a shorter and feebler sound. The first is synchronous with the apex-impulse, and is therefore systolic, or produced by the contraction of the ventricle forcing the blood back into the left auricle; the other is diastolic, and is produced by the contraction of the auricle forcing the blood into the ventricle through a contracted and roughened aperture. The one is loud, because it is produced by the strong ventricle; the other is feeble, because it is due to the relatively feeble auricle. On listening to the basic sounds of the heart, the aortic and pulmonary second sounds, I find that they are natural, at least in quality, but very feeble. Their feebleness is due to the abnormally slight tension of the two great vessels, occasioned by the defective action of the auriculo-ventricular valves on both sides of the heart. In other words, at each systole of the heart they receive less blood than is their due, and consequently their semilunar valves are thrown together with a diminished force.

Such, then, are the elements of the mechanical disorder of our patient's heart: deficiency of the tricuspid, deficiency and obstruction of the mitral orifice or valve. In other words, he is deprived of at least one-half of the protective agency of the heart's valves. Their purpose is, among other things, to prevent the lungs from being oppressed by an accumulation of blood in them; but here the blood cannot escape freely from the lungs into the left ventricle, because the mitral orifice is contracted, and because its current, at every systole of the heart, is met by the regurgitant stream which is propelled from the left ventricle into the auricle of the same side. Thus the lungs would be soon and fatally engorged with blood, if the current through them had not some way of escape, which to the patient becomes a door of safety. This, in the present and in many similar cases, has been provided for by a dilatation of the right side of the heart to such an extent that the tricuspid valve no longer closes its orifice completely, and the blood returns from it through the right auricle into the great reservoir of the systemic veins. These facts and this explanation enable us to understand the distention and pulsation of the veins of the neck, and also the bloody expectoration. The latter is only a sign of the over-distention of the pulmonary blood-vessels, which in this case is due not only to the obstruction of the heart that we have been studying, but also, in part, to the diminished capacity of the lungs produced by the hepatization of one, and the compression of both, by a pleural effusion.

There is still another point. Your attention has been called to the fact that the skin is not only œdematous, but also purplish. Why is this? It is, as, indeed, has already been intimated, because the venous radicles, or, if you choose, the capillaries of the skin, are distended by venous blood, and by the same mechanical causes which produced the bleeding from the lungs, the obstruction of the heart, and the retrogression of the blood from the right ventricle into the systemic veins. In those parts of the body where the circulation is relatively feeble the discoloration is greatest, because in such parts the returning venous blood is opposed by a heavier column and is propelled by a weaker force. On the other hand, where the circulation is relatively more active, as in the face, this dingy tint is less decided. It is the natural office of the tricuspid valve to obviate this very condition of things, by preventing a reflux of blood from the right ventricle into the venæ cavæ.

The urine of the patient, as you have heard, is albuminous, and there is general dropsy. Is this dropsy due to a primary affection of the kidneys produced by the cold and wet the patient was exposed to, or is it due, as it may be, secondarily to a mechanical congestion of the kidneys produced, as the general venous congestion is, by the condition of the thoracic organs? It is a safe rule in reasoning to invoke no more causes than are necessary to explain an effect; and, as the last-mentioned causes are sufficient in the present case, it is unnecessary to go beyond them. For what is albuminuria? it is merely a symptom of various anatomical conditions of the kidneys, the common element of which is an impeded circulation of the blood through those organs. The most irremediable as well as the most transient conditions may occasion it; and often it

is impossible to estimate its value unless we know whether it is permanent or temporary. In this case we have not had time to determine the duration of the albuminuria; but we are entitled to assume that it dates no further back than the symptoms which followed the accident that befell our patient, and, consequently, that its cause is congestion, and not degeneration, of the kidneys.

In regard to the treatment, I would remark that it should consist, in the first place, of rest, and of such diet as will tend to maintain and, if possible, improve the strength. But, as the patient's present debility depends neither on original weakness nor on direct exhaustion, but mainly upon a mechanical impediment to the performance of those essential functions which are delegated to the heart, lungs, and kidneys,—that is to say, upon venous congestion and serous effusion,—the indication is clearly to remove these last-named conditions. If we could draw off the exuded serum through the skin, the bowels, or the kidneys, we might hope to afford speedy relief; but it is questionable whether the attempt to do so by very active medicines would not prove too exhausting. I shall attempt, however, to attain our object by administering digitalis, with the purpose of promoting diuresis, of steadying and toning the action of the heart, and of controlling the pulmonary hemorrhage by contracting the capillaries of the lungs. The tincture of foxglove, then, will be given, in doses, at first, of ten drops three times a day; subsequently it will be gradually increased, until its operation is indicated by a diminished frequency of the pulse. This medicine will be administered in a solution of acetate of potash,—about twenty grains in four ounces of water,—and its operation promoted by barley-water. If the bowels are confined, they should be unloaded by mild laxative pills at first, and afterwards, if the patient's strength will permit, purgatives of jalap and cream of tartar should be administered. This treatment is rational; but it may, nevertheless, be unsuccessful, if the changes are already far advanced, or if the vital power is sunk beyond the reach of their assistance.

SEQUEL.—The bronchial effusion which had been denoted by moist rhonchi and a bloody expectoration gradually produced asphyxia, and before another week the patient died. The left lung was everywhere œdematous, upon the edges emphysematous, and in the lower lobe was an apoplectic nodule as large as a walnut. In the right lung, the entire lower lobe was in a state of red hepatization, and the pleural cavity contained twenty ounces of liquid. The heart was very large and firm, and weighed twenty-four ounces; its tricuspid orifice enormously dilated, and its mitral orifice contracted and hard. The liver was about the natural size; it weighed fifty-four ounces, was closely adherent to the diaphragm, and entirely enveloped by false membranes, which were evidently not of recent origin (*peri-hepatitis*). The abdominal cavity and the general connective tissue contained abundant serum. The kidneys were enlarged, the left weighing eight, and the right six and a half, ounces.

ORIGINAL COMMUNICATIONS.

ON A CASE

OF SPLENIC AND LYMPHATIC HYPERTROPHY WITHOUT LEUCOCYTHÆMIA (HODGKINS' DISEASE — ADENIE—PSEUDO-LEUCÆMIA).

BY DR. H. C. WOOD.

IN the month of August I was asked by Dr. Fricke to see, with him, a case in the northern part of the city. Mr. ——, aged about 30 years, had served in the army during the last six months of the rebellion, chiefly in Virginia, much of the time in malarious districts, during which he suffered severely from camp-diarrhœa or dysentery, but never had any distinctly malarious disease. After his return, he resumed his occupation, that of a confectioner. At this time, he states, he was an exceedingly powerful man, lifting a barrel of flour with ease. His habits were in every respect moral; strictly temperate; never had syphilis or gonorrhœa. His work was very heavy, consisting chiefly in kneading and handling immense pound-cakes, and was done altogether with his right hand, his body being bent sharply to the left in a constrained position. To this he himself attributed his attack. His wife, after his death, stated that ever since she had known him—three years—he had been troubled with looseness of the bowels and sudden attacks of diarrhœa. Four months ago, in April, he was taken with pain in back and left side; this pain was chiefly dragging and heavy. During the next two months he had occasional attacks of diarrhœa, but was treated chiefly for the persistent pain, which was believed to be rheumatism. During the last two months he has lost flesh and strength rapidly, and a few days ago sent for Dr. Fricke, who at once determined the case to be one of diseased spleen. The following is taken from my note-book:

August 15. Man very thin and weak, but able to walk about the room. Skin natural in color but pale, and temperature normal. Tongue clean. Heart and lungs normal. Abdomen enlarged, apparently free from fluid. Spleen very much enlarged; the area of decided percussion dulness 5½ inches vertically, 6½ transversely; its surface smooth, hard, its edges rounded; decided tenderness when strong pressure is made upon it. Liver enlarged, its smooth edge reaching about an inch below the ribs; vertical percussion dulness 5½ inches. Urine normal, save only that it contains some minute crystals of phosphates and a good deal of mucus. Has not either sexual desire or power, nor has he had for two months. Legs slightly œdematous. Has had iron and quinine, and an ointment of iron and belladonna over region of spleen. Examined, with Dr. Fricke, blood microscopically: certainly no increase in white blood corpuscles. 16. Has decided fever this morning. Ordered tr. iodin. comp. gtt. v, t. d. 17. Has some fever; skin hot and dry. 25. Patient worse since last entry; feet very much swollen; is weaker and more emaciated; has had fever occasionally; a good deal of irritation of the stomach, possibly caused by iodine, and also diarrhœa. Examined blood carefully microscopically; the white blood corpuscles found were very few in number, certainly below rather than above the normal proportion. Ordered tr. ferri chl. gtt. xxxv and cinchon. sulph. grs. ii, t. d.; also decoction of broom (Scoparium). 28. No decided change, but marked increase in flow of urine. 30. No especial change since last entry. Patient has had no fever for several days. *September* 12. Not very much changed, but decidedly paler and weaker; hardly able to walk a few steps; occasionally has fever, no regularity perceptible in its attacks; spleen, by palpation and percussion, 8½ inches transversely by 6 vertically, apparently not quite so hard as before, smooth; vertical liver-dulness 5 inches; pulse 96, excessively dichrotic; a very decided basal systolic murmur, anæmic in character of its sound; tongue clean; appetite pretty good; legs very œdematous. 29. No change since last entry; merely a steady advance in severity of symptoms; more or less frequent attacks of diarrhœa and of fever; progressive emaciation; great loss of strength, so that he is not able to stand alone now; general hue of skin that of intense anæmia; lips almost white; nothing like cancerous cachexia; no œdema now (probably partly from his being constantly recumbent); decided ascites; spleen very hard; lymphatics of neck, axilla, and groin decidedly but not greatly enlarged. *October* 1. Examined blood microscopically: certainly diminution, rather than excess, in proportionate number of white blood corpuscles; not more than one field of an ⅛th in three contained any, and only once, out of a number, were two found in a single field; red corpuscles pale, showing no tendency to adhere in rouleaux. 8. Man died quietly of exhaustion.

Autopsy, about 36 hours after death.—Body emaciated, pale. *Thorax.*—Pleura containing a large quantity of serous fluid. Lungs healthy. Blood-vessels normal. Heart small, pale, somewhat soft; valves healthy. *Abdomen.*—Liver very much enlarged, fatty, nutmeg; no heterologous deposits in it; consistence much firmer than normal. Pancreas large, hard.

Stomach normal. Intestines thin; their mucous membrane pale; no enlargement perceptible of the simple glands; Peyer's glands a little more prominent than usual; not ulcerated; suprarenal capsules normal. Kidneys rather small, normal; no heterologous growths discovered. Spleen very much enlarged and hardened; as laid on a plate, eight inches long, five and three-quarters broad, and nearly four thick; color very bright red, almost scarlet, mottled with numerous dark spots and with some yellowish ones; capsule readily detachable; showing on section a narrow external zone of bright red; internally, darker red, a sort of reddish liver-colored, with numerous very dark spots or masses closely placed. There were also a few masses of a straw-yellow color scattered through the spleen. These masses were of various shapes and sizes; not very numerous. The largest was of a wedge-shape, the base against the surface of the spleen; the edges irregular in places, folded in, with one or two lines of deep red external to them and everywhere following their contour. This patch is one and a quarter inches long and three-quarters of an inch across the base. The whitish material appeared to be formed in centre of the dark patches; at least, quite a number of such spots exhibited a minute central whitish spot, similar in appearance to the larger whitish ones. *Lymphatics* enlarged both in thorax and abdomen, and still more so in the axilla, neck, and crural regions. The only superficial glands taken out were from the groin. These were about an inch in length, and were larger than the internal glands.

Microscopic Examination.—Spleen.—Pulp containing usual elements, fibrous tissue, nucleated trabecular cells, and pulp cells. The latter appeared more granular and less distinctly nucleated than normally. *Red Spots.*—These appeared to be chiefly colored by an intense hyperæmia; not so much, however, by the distinct presence of blood as by an excessive overplus of coloring-matter. The latter was not contained so much in distinct globules, as it appeared to penetrate everything. There were a very few pigment granules. The red spots could be in great measure washed out, and, under the microscope, presented no other elements than such as were found in the pulp elsewhere; only everything intensely red. A very few pigment granules were seen, and in one place was found, in the centre of a dark spot, a somewhat cylindrical, dark-green, hard, flattened mass of nearly a line long. Nowhere else were any indications found of masses of blood having existed. *Whitish Spots.*—Composed almost entirely of cells similar to those of the pulp, but smaller ($\frac{1}{2400}$ to $\frac{1}{4000}$), shrunken, a little more inclined to be globular, never nucleated, and filled with granules; some oil, but not much. *Malpighian corpuscles* were not at all evident. I dissected one out of the centre of one of the dark spots. It appeared normal, save that it was of an intensely red color.

Among the first distinct recognitions of a disease whose anatomical characters were great enlargement of the lymphatic glands and of the spleen, with which I am acquainted, is that of Dr. Hodgkins (*Medico-Chirurgical Review*, vol. xvii.). In this paper, however, there were no microscopical examinations of the blood, and it is therefore uncertain whether the affection was actually the disease since known as Hodgkins' disease, or whether it was leucocythæmia. In a paper published in *Recueil des Travaux de la Société Médicale d'Observation*, 1857–58, to which I have not, however, had access, Dr. Bonfils appears to have described for the first time what have been considered since as the chief characters of the disease,—namely, glandular enlargement without increase of the white corpuscles of the blood. Since this time there have been some half a dozen papers upon this affection; and in the *Archives Générales* for 1865 there is a good *résumé* by Dr. Cornil of our knowledge upon the subject, with one or two excellently observed cases. In the last edition of the Clinique Médicale, by Professor Trousseau, there is a brilliant lecture upon this affection, its clinical history and pathology. The doctor gives to the disease the name of Adénie, and assigns to it, as clinical characteristics, great and progressive enlargement of the lymphatic glands, without any tendency to suppuration or resolution, and finally death of the patient, sometimes from intercurrent accidents, as suffocation from the pressure of the enlarged glands upon the respiratory passages, or, escaping these, from intense anæmia, with diarrhœa, hectic fever, colliquative sweats, etc. In only three out of twelve observations was there any enlargement of the spleen, and in these this was preceded by enlarged lymphatics, and belonged, Professor Trousseau states, strictly to the second stage of the disease. The disease was chronic in its nature, lasting from twelve to eighteen months, or even longer; and in several cases the patient was apparently in excellent health, although enormously enlarged lymphatics had already existed for months.

In the cases described by Dr. S. Wilks, in *Guy's Hospital Reports*, 1865, under the name of Hodgkins' disease, the enlargement of the spleen was a more constant and more striking feature; but in other respects the agreement is complete,—the same enlarged glands and the same peculiar whitish masses found in the spleen. There is, therefore, a disease described by these authors closely allied to leucocythæmia,—so closely, that it is impossible to distinguish between the two, either before or after death, save by the microscopic examination of the blood, their clinical history and post-mortem appearances being otherwise exactly similar. In leucocythæmia, however, there are, as is well known, two sets of cases,—namely, the lymphatic and splenic,—in the one of which the glands are chiefly, or even solely, affected; whilst in the other the spleen bears the brunt of the disorder.

The splenic variety is certainly the most common; but that there are certain cases of leucocythæmia in which the spleen remains healthy whilst the lymphatic ganglia become enormously enlarged, is attested, from personal experience, by both Virchow and Niemeyer. All the cases of the allied adénie hitherto published have corresponded more closely to the rarer form of leucæmia, the glands being very greatly and primarily affected.

The case herein detailed, I conceive, presents hitherto unnoted clinical characteristics, in that the affection of the spleen was primary, and the enlargement of the lymphatics was manifested late in the disorder and was at no time sufficient to attract attention. The parallelism between the two diseases is therefore now complete, both of them exhibiting a splenic and a lymphatic form; although it is worthy of remark that, so far as I am aware, no case of Hodgkins' disease has been reported which ran its full course, with death from anæmia without accident, in which the spleen was not finally enlarged.

There is one anatomical change, occurring not infrequently in leucocythæmia, which has as yet scarcely been noted in adénie, namely, the formation of masses of lymphatic tissue in the liver, kidneys, etc. I do not think this, however, can at present be allowed to be a point of difference. The masses alluded to are not new tissue formation. Von Recklinghausen and other German histologists have demonstrated, or at least rendered extremely probable, the existence of minute lymphatic masses or cells in all these glandular organs; and the interpretation of the appearances alluded to is simply that such minute portions of the lymphatics have partaken in the general hypertrophy. Friederich, to be sure, claims to have demonstrated that these formations take their origin in the connective tissue corpuscles; but I do not think, at present, this can be acknowledged. I see, therefore, nothing more than was to be expected in the leucæmic tumors of the liver and kidneys, and believe the reason that they have not been more frequently found in Hodgkins' disease is the exceedingly small number of the cases that have been well observed. According to Dr. Cornil, moreover, M.

Hérard has observed this formation of apparently new lymphatics in a case of adénie, in the lungs, ovaries, and mucous membranes of the stomach: so that I do not see how the exact parallelism between the two affections can be denied.

In regard to the nature of Hodgkins' disease, Dr. Wilks advances the opinion that it is a constitutional disorder, closely allied to tubercle and cancer, characterized by a peculiar exudation in the spleen tissue. This is evidently an erroneous theory. It is hardly possible to conceive a disorder of the same class as tubercle in which the deposit is always confined to a single organ; and, moreover, similar masses are found in the spleen in leucocythæmia, more rarely in chronic malarial hypertrophy, and also in ulcerative endocarditis. They are, in truth, not deposits at all, but are the results of arrest of circulation, and are the so-called "hemorrhagic infarctions." In heart-disease, they are often directly traceable to the presence of emboli stopping up the smaller splenic arteries. In the case described in the present paper, their method of formation was very clearly shown. The first step was evidently a damming of the circulation in the intertrabecular spaces by the rapid multiplication of cells. In this way were formed the very numerous and prominent dark spots. The changes into whitish tissue evidently commenced in the centre of these dark masses, as the result of a complete arrest of the circulation, and gradually spread as the effect of this arrest widened. Where a large triangular mass of tissue was involved, there was, without doubt, a secondary formation of a thrombus in a large vessel by coagulation taking place owing to the impeded blood-current. The microscopical examination bore out entirely this view, as the cells of the "deposit" consisted simply of shrunken splenic pulp cells, with oil granules and *débris*, and a small proportion of trabecular tissue.

The post-mortem study of the case fully carried out the view held by Trousseau, Cornil, and Niemeyer, that the changes in the spleen consist principally in a hypertrophy of the pulp of the organ, the cells, as I think, being less fully developed than normally, exhibiting, in a word, the characters found wherever there is excess of formative at the expense of developmental action.

The theory that leucæmia is owing to an overaction in the lymphatics and spleen, resulting in the production of an overplus of white corpuscles, which, from being imperfectly developed, are unable to pass into red corpuscles, although by no means proven, seems to me to be the best that our present knowledge will allow. The physiology of the spleen is certainly not finally settled. Indeed, Dr. Flint, Jr., in his great work, asserts that our knowledge of it amounts to nothing; yet its connection with formation of the blood seems to me very plainly shadowed forth. It is well known that two theories have been advanced,—the one of which attributes to the spleen the function of forming white blood corpuscles; the other, the destruction of the red. It is by no means impossible that both of these are true; for the idea of such a double function involves no absurdity. If it be so, the two affections leucæmia and pseudo-leucæmia, connected as they are with apparently identical changes in the spleen, represent respectively abnormal states of the two functions,—in the former, an excess of imperfectly developed white corpuscles resulting; in the other, a rapid destruction of the red corpuscles, and consequent deterioration of the blood. In this connection, it is interesting to observe that no case is as yet recorded* in which the patient died of the characteristic anæmia without splenic hypertrophy. There have been, it is true, several instances in which the disease proved fatal without marked implication of the spleen; but the cause of death was not anæmic exhaustion, but gradual suffocation from pressure upon the trachea or bronchi by the enlarged glands. Moreover, there have been cases in which the lymphatics were enormously hypertrophied, and had been so for years, the general health of the subject remaining good, until, the spleen commencing to enlarge, the characteristic anæmia appeared.

These clinical facts or coincidences are certainly very interesting; but a much greater number of well-observed cases and more complete knowledge of the healthy organs are requisite before any permanent theory of the disease can be made out.

As to the etiology of the affection, our ignorance is at present absolute, and the case here reported is in strict agreement with most of those hitherto observed, in having no tangible cause. Professor Trousseau endeavors, it is true, to connect adénie with a prolonged irritation of some mucous membrane; but I do not think he at all establishes this. There have been several cases reported in which no such irritation had existed; and some of the cases upon which Professor T. relied as establishing his theory were observed so loosely that it is not certain they represented the disease. In the present instance the previous camp-diarrhœa had too long passed away to bear any direct relation to the fatal disorder. It is true, there was an indistinct history of subsequent disorder of the bowels made out after the death of the patient; but, from close cross-questioning of his friends, it appeared to have been more of the nature of relaxation than irritation. The circumstance that no affection of the bowels in the years previous to the attack was spoken of by the patient, although closely and frequently questioned on his history, would appear to forbid any importance to be attached to the after-statement of friends.

Perhaps this is asserted too positively; I certainly have not been able to find such case.

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CASE OF ERECTILE CANCROID OF THE VAGINA.

BY L. K. BALDWIN, M.D.

I WAS summoned in haste, on the evening of November 24, 1869, to see Mrs. B., aged 31, who was flooding. I was somewhat surprised at the announcement, having had a conversation with her a few weeks previous in regard to her condition, she assuring me that she had never enjoyed better health, and was quite regular in her menstrual periods. On

going into her chamber, I found her lying on the bed in a somewhat excited condition, having lost some blood, though the amount was not sufficient to cause alarm. She stated that it had come on suddenly while using some exertion in dressing herself in a fancy costume for the amusement of some young friends who were paying her a visit. I had attended her about one year previous to this time for a vesicular mole, at which time she came near losing her life from hemorrhage, and she feared she was again to pass through a similar ordeal. I proceeded to make an examination of the parts, and was not a little surprised to find that the hemorrhage was not uterine, but proceeded from a small vascular tumor, erectile in its nature and appearance, situated on the upper wall of the vagina, closely hugging the pubic arch, and, of course, in immediate contact with the urethra. The tumor was about the size of a walnut without the hull, attached to the mucous membrane by a rather wide base, but, at the same time, within easy reach of the finger. The hemorrhage was purely arterial in character, and spurted out from the middle of the tumor, to the distance of six inches, in several jets of the size of a fine knitting-needle. I made an application of Monsel's solution to the surface, then placed a compress over the parts, and confined all in place with a T bandage tightly drawn, enjoined rest in the recumbent position, and left her until morning. I found, on visiting her in the morning, that there had been no further hemorrhage, and she felt quite comfortable, and was desirous of getting up, which, of course, was positively forbidden. In the course of a few days the coagulum formed by the application of the iron became loosened, and there was a return of the hemorrhage, which was promptly checked by the same means. The tumor was found to be so vascular in its nature as to give rise to hemorrhage on the least exertion or motion of the parts surrounding it.

In consultation with Dr. Goodell, of the Preston Retreat, who saw the case with me on the second or third day after the first hemorrhage, it was decided that the safety of the patient depended on the removal of the tumor and the securing of the bleeding vessels. The plan adopted consisted in passing a strong double ligature through the base of the tumor, and tying it in two sections. This was done on Wednesday, December 1, seven days after I first saw the case. The ligatures cut their way through in a few days, the mass coming away in one piece without hemorrhage, leaving an apparently healthy surface underneath. After having got rid of the offending mass in the way mentioned, we counted on a speedy recovery of the patient. In this we were most sorely disappointed, as the subsequent history of the case will show. Things appeared to progress favorably for a few days, the spot from which the tumor was removed still retaining a healthy, granulating appearance, and nothing untoward occurring save a dark-colored and exceedingly offensive discharge. This increased so in quantity and offensiveness that we were led to make a second exploration about two weeks from the time of making the first. This examination revealed to us an excrescence much larger than the one we had removed, springing from the portion of the anterior wall of the vagina not involved by the previous growth, but extending far enough forward to be plainly visible on forcible separation of the labia. It had much the same external appearance as the one removed, but showed no tendency to bleed on being handled. The discharge was of the color and consistency of dark treacle, and was so offensive as to render the air of the chamber unbearable and make the patient loathsome to herself and those around her, besides interfering materially with her health. The general appearance of the last excrescence, its rapid growth, and the exceedingly offensive nature of the discharge from it, soon convinced us that we were dealing with a cauliflower cancer, instead of a benign tumor of an erectile character, as we had supposed the first to be. The patient assured us that she had no knowledge of the existence of anything like a morbid growth in the vagina until made painfully conscious of it by the occurrence of the hemorrhage which took place on the evening of November 24, when I was called to see her. From the position occupied by the first, it would seem impossible for it to have existed for any length of time without her being made aware of it in some way or other; for it was far enough forward to be plainly visible on separation of the labia, and, of course, was subjected to pressure or abrasion in any position she placed herself. No hemorrhage of any account ever took place from the growth which made its appearance subsequent to the removal of the first; but the discharge grew more copious and lost none of its offensiveness. Frequent use of injections strongly impregnated with carbolic acid served to keep her in a comparatively comfortable condition and destroy the offensive emanations. Quinine, iron, and stimulants were freely given for the support of the patient, who soon began to go down both mentally and physically, she having been made acquainted with the fact that her disease was of a much more serious nature than we at first supposed, and would most likely in the end prove fatal. She had a horror of cancer, her father having died of cancer of the stomach, and her grandfather of cancer of the nose. At the request of the family, Dr. Agnew saw the case with me on Sunday, January 2, 1870, and, after a careful examination, confirmed the diagnosis previously made. Notwithstanding our perseverance in the use of the most supporting treatment, coupled with a generous diet, of which she took liberal quantities, her stomach at all times being able to retain them, she gradually sank, and died on January 5, 1870, or in about six weeks from the time the first hemorrhage occurred.

Sectio cadaveris, thirty-six hours after death. Body well preserved by ice; waxy in appearance; not much emaciated. Pelvic and abdominal cavities only examined. All the abdominal viscera found entirely healthy and normal in appearance. Small cysts found in each ovary. Uterine walls somewhat thickened, but otherwise in a healthy condition. Cavity of uterus also healthy. Springing from the anterior wall of the vagina were found a number of quite large soft cancerous growths, an outcropping of which had been removed by strangulation several weeks previously for the relief of hemorrhage. These growths were so large as to distend the vaginal canal. They had their origin entirely from the anterior wall. The other parts of the vaginal tract were somewhat injected and thickened, but otherwise free from disease.

A microscopic examination of a section of the tumor, kindly made by Dr. H. Y. Evans, showed positively its cancerous nature.

Remarks.—The amount of blood lost at each hemorrhage was small, and consequently her rapid failure could in no wise have been caused by depletion. The case is one of considerable interest in several particulars:

1. The entire absence of pain, and the want of knowledge of the patient of the existence of a morbid growth until the occurrence of the first hemorrhage.

2. The rapidity with which the subsequent growths made their appearance after the removal of the first.

3. The fatal termination in the short space of six weeks, the patient being previously in robust health. Of the cancerous nature of the excrescences there can be no doubt; but why they should, in spite of all treatment, have gone on so rapidly to a fatal termination, appears to me mysterious.

4. The great difficulty of diagnosis between benign erectile tumors of the reproductive organs and erectile cancroids, a difficulty which Virchow can only explain on the theory that simple papillary growths of these parts have a tendency to become malignant, and therefore advises their early removal by the galvano-caustic apparatus.

NOTES ON CHLORAL.

BY DR. H. Y. EVANS.

IT seems to me that the remark so often made "that we are governed by fashion in medicine" is an erroneous one. The underlying cause of the disposition to change and drop certain remedies after a period of varying success is owing, in a great degree, to the use of an inferior preparation. The numerous reported failures in the use of hydrate of chloral seem to make this fact especially true in regard to this drug.

I have noted the effects of this drug in twenty-four consecutive cases.

In the first *sixteen* cases (in doses of grs. xxv to xxx) its effects were really delightful.

In the *seventeenth* and *eighteenth* it failed in producing anything but delirium and a subsequent headache.

In the *nineteenth*, *twentieth*, and *twenty-first* cases the effects were entirely satisfactory.

In the *twenty-second* (nephralgia), grs. xxx, repeated every hour for three hours, resulted in wakefulness and headache.

The use of it in the *twenty-third* and *twenty-fourth* cases resulted, within an hour, in vomiting and delirium, and, at the expiration of eight hours, a heavy, unpleasant sleep.

Cases *seventeen*, *eighteen*, *twenty-three*, and *twenty-four* were most suitable ones for happy effects. The failure, therefore, made me anxious to discover the cause. On inquiry as to the character of the preparations used in these cases, I was convinced that three out of four of my failures were directly due to the use of an inferior and deleterious drug. These preparations had a heavy, dead, camphory odor, and, in one instance, a dirty appearance.

The fact mentioned by Dr. Baldwin—that a small dose (grs. xv) largely diluted (in f℥ij of fluid) seems to act *more promptly* and more pleasantly than a large (grs. xxx) one sparingly diluted (in f3iij of fluid)—is an important one; and I am so convinced of its truth that I invariably act upon it.

CASE OF PROTRACTED RECOVERY

FROM EXTENSIVE COMPOUND COMMINUTED FRACTURE OF LEG.

BY DR. ELLIOTT RICHARDSON,

Late Senior Resident Physician of the Pennsylvania Hospital.

THE uncertainties of prognosis are frequently illustrated by fatal results from apparently trivial causes, while, on the other hand, it is sometimes our fortune to witness wonderful recoveries from injuries which would generally be considered almost necessarily fatal, either to life or to the usefulness of the member affected.

The following case possesses some interest, not only on account of the ultimately favorable result, but also on account of the protracted recovery.

A railroad employé, 31 years of age, of good height and physical development, in good health, but not free from the use of alcoholic drinks in excess at times, was admitted to the Pennsylvania Hospital, under the care of Dr. W. Hunt, October 29, 1869, suffering from injuries received by being run over on the railroad.

On examination, the right thigh was found to be much swollen and discolored, giving evidence of very serious and extensive contusion of the part. The knee-joint was unharmed, but below the knee the limb was extensively injured. On the inner and upper side, about three inches below the joint, was a lacerated surface about three inches in length, communicating by a rather narrower opening with the seat of a comminuted fracture of the tibia. At a distance equal to about one-third the circumference of the leg on the upper and outer side was a wound about an inch in length, which was found to communicate with a fracture of the fibula.

The fracture of the tibia was freely examined at the time, and found to include, as nearly as could be ascertained, the entire shaft of the bone for a distance of two and a half inches to three inches, the fragments consisting of a large one and a number of smaller ones. The fracture of the fibula was not comminuted.

The patient was profoundly depressed at the time of admission, but, gradually recovering, efforts were made to save the limb. He remained in the hospital until April 6, 1870, during which time several fragments of bone were removed through the sinuses, four in number, communicating with the fracture. At the time of his discharge the fibula had united, but the tibia showed no evidence of attempt at union, and the patient, refusing to submit to an operation for the removal of a large fragment of necrosed bone, went to his home.

On the 22d of June I saw and examined the leg. No union had yet occurred between the two fragments of the tibia. The sinuses still continued to discharge minute spiculæ of bone. On introducing a probe, it was freely passed over a denuded surface of bone for a distance of at least two inches.

When I next saw the patient, October 6, 1870, I found both bones of the leg firmly united. A large amount of necrosed bone could still be detected; but he had so far recovered the use of his limb as to be able to walk with the aid of a cane. There was shortening produced by a marked curvature towards the tibial side, but the muscular development and usefulness of the limb seemed to be good.

It will be seen, from the above, that nearly a year elapsed before union between the fragments of the tibia occurred, and that it occurred at last between fragments of bone separated two or three inches from each other.

NOTES OF HOSPITAL PRACTICE.

PENNSYLVANIA HOSPITAL.

CLINICAL SERVICE OF DR. WM. HUNT.

Reported by Morris Longstreth, M.D., Resident Physician.

CASE I. REDUCTION OF A SCROTAL HERNIA BY POSITION.—Wm. Bushhouse, æt. 46, admitted October 3, 1870, with an irreducible inguinal and scrotal hernia of the right side. The hernia had existed for a long time, and occasionally had been a source of trouble, probably from slight inflammatory attacks of the sac. He had been in the habit of wearing a truss, but it was found to be poorly adapted to the case. An attempt was made at reduction, without and with ether, and was followed by no success. As the case presented no urgent symptoms, the patient was kept at rest, sedative applications were made to the tumor, and a large dose of opium was given immediately and repeated at proper intervals. After the lapse of a few days, no urgent symptoms having presented themselves, and the tumor still remaining as before, a small platform was rigged, and the scrotum, tumor and all, elevated at an angle of 45°. Gradually the tumor decreased in size, nothing remaining in the groin but a part of the hardened sac, which was unusually dense,—so much so as to give the sensation of a third testicle. His bowels moved freely, without the aid of any purgative, after the discontinuance of the opium. A double truss was procured for him, as a smaller hernia existed on the other side, and he was discharged cured.

Case II. GUNSHOT WOUND OF LIVER, JEJUNUM, AND KIDNEY.—Samuel Height, colored, æt. 25. Admitted on the night of election-day, with a gunshot wound of the abdomen in the median line, two and a half inches below the end of the ensiform cartilage. No wound of exit could be discovered. While in lateral decubitus hemorrhage was free, and ceased when in dorsal decubitus. Patient was suffering greatly from shock. He was ordered to have heat applied to his extremities, and a small amount of stimulus. No vomiting. Died twenty hours after admission. He took 20 grains of opium, and this amount was hardly sufficient to control his suffering. Bowels not moved. Urine passed freely and was normal.

Post-mortem examination showed a perforating wound of the left lobe of the liver, a division of the coronary artery of the stomach two inches from the pylorus, three perforations of the jejunum, and a wound of the left kidney. The ball was found subcutaneously in the left lumbar region. Death occurred from hemorrhage and peritonitis. Here is a case strikingly illustrative of the fact that it is the damage the ball does in its course that the surgeon has to deal with, and very often the position of the ball itself is of no great importance. This fact would seem to be almost self-evident; and I only mention it because we are constantly worried by the patient and his

friends, and by the public through the newspapers, as to the ball, there being a prevailing impression that if this is gotten out safety is assured. Of course, in most cases all reasonable efforts should be made to obtain it; but, if this is done at the sacrifice of more important considerations, great evil may ensue. In the present case its position was of no importance whatever in producing the fatal result.

Case III. Recovery from Gunshot Wound of Abdomen.—George Firth, æt. 16. Admitted on the night of election-day, with a gunshot wound of the abdomen on the left side, midway on a line from the crest of the ileum to the umbilicus. He complained of pain, and was ordered two grains of opium, by suppository, every hour until he slept. He was quiet all next day. At the evening visit on the following night his pulse was found accelerated and bounding, and the abdomen was moderately tympanitic. Ordered a turpentine stupe and the suppositories as before. Turpentine was applied freely during the following day, and it produced vesication of the integument. Opium was not required further in the treatment. He was asleep or drowsy during the seventy-two hours following admission. The diet was strictly fluid for one week. No further symptoms. No bullet found. Bowels were not opened until the 10th day. Discharged on the 14th day.

Case IV.—J. D., æt. 79, in infirm health. He had been a patient in the hospital 134 days during the year 1868, from a crush caused by a hogshead of molasses. Admitted November 12, 1870, with an incised penetrating wound of the abdomen in the right inguinal region, midway on and one inch from the line of Poupart's ligament. Intestine was protruding. Pain was very severe. He was ordered to have two grains of opium by suppository every second hour until quiet. This was continued until death occurred. He lived fifty-seven hours, and received fifty-four grains of opium without any symptoms of narcotism. The nurse reported that "he was no more sleepy than if he had had a tablespoonful of morphia solution." The pain was entirely localized to the wound. Fecal matter was discharged freely through the wound. No tympany. Bowels were not moved.

Post-mortem examination showed two wounds of the ileum,—one dividing the coats entirely, and this part of the bowel was found adherent at the point of incision in the walls of the abdomen, presenting an open mouth; the other involved the outer two coats, and was covered by lymph. Peritonitis was circumscribed to a few coils of intestine. Died from exhaustion rather than peritonitis.

These cases show the absolute necessity of the free but judicious use of opium, not only as a means of relieving pain, but also for the purpose of confining the bowels, so that there may be not only no evacuation of the intestine, but that we may as far as possible control their peristaltic action, keeping them, as it were, in splints. Thereby we favor attempts at adhesion in cases where there has been a solution of their continuity, or perforation. Our efforts in this direction are to be continued for at least a week or ten days. There is perfect safety in this method of procedure, as no accumulation of fecal matter during this period can be a cause of danger to our patient. In the first place, if the diet of the patient is properly directed, the accumulation can be only small in quantity; secondly, we have reason to believe, from the anatomical arrangement of the parts, that the cæcum and large intestine are passive receptacles of the useless and excrementitious results of the digestive processes. As long as accumulation is confined to this portion, no possible danger from absorption can arise. The large intestine, unlike the gastric mucous membrane, that of the upper bowel, and that of the rectum, has, there is reason to believe, no absorbing power, or, if so, to a very limited degree. From observations taken in a case detailed in the Pennsylvania Hospital Reports, 1868, p. 165, where an artificial anus existed in the ascending colon, the fact of its inability to absorb matters placed in contact with its surface seems proved. In this case no effect on the system could be produced by such medicinal agents as laudanum or morphia, or by anything placed on as a dressing. As to the digestive powers, they were absolutely nothing. Various articles of food placed within the gut were found on removal to be unchanged, except from maceration. No portion was lost or dissolved.

In a healthy person, accumulation does not take place in the rectum until just before the call to stool; and when, as in our cases, the peristaltic action is in abeyance, it is left free for the absorption of such medicinal agents as we may choose to introduce. The sigmoid flexure serves for a "trap," retaining all excrementitious matters within the large intestine, until, at such times as the peristaltic action passes onward further accumulations, a descent into the rectum takes place, and the call for stool comes on.

The principles for treatment in such cases—however hopeless gunshot and penetrating wounds of the abdomen, where an injury of any viscus has occurred, may be—are, primarily, free administration of opium to control pain and the natural peristaltic action of the bowels, and, secondarily, the control of the diet within such limits as merely to sustain the strength of the patient until the dangers of inflammatory troubles have passed.

PHILADELPHIA HOSPITAL.

SERVICE OF DR. E. L. DUER.

Reported by H. G. Landis, M.D., Resident Physician.

A CASE OF ACUTE DESQUAMATIVE NEPHRITIS, OCCURRING IN A CHILD AGED SEVEN MONTHS.

C. G., æt. seven months, in the nursery wards of the Philadelphia Hospital, was noticed, August 5, to have slight diarrhœa, and boils on the trunk, principally on the back. The latter appeared in successive crops, but, under supporting and tonic treatment, were entirely removed. The diarrhœa, in the mean time, became excessive, and by the 11th the child presented well-marked symptoms of entero-colitis. The diarrhœa was permanently checked on the 14th, and from that time on the evacuations were never more than from one to three in the twenty-four hours. The child, however, was much prostrated, and symptoms of cerebral disorder, which were more or less evident at an early period of the diarrhœa, became very prominent by the 18th. The head was hot, the eyes rolled up during sleep, and occasionally strabismic, the pupils contracted. Sinapisms to the back of the neck and cold to the head afforded slight relief only. On the morning of the 30th, the child having grown gradually weaker, opisthotonos appeared as the precursor of death, which occurred in the evening, immediately preceded by great difficulty in respiration. The child had so far presented nothing at variance with, or in addition to, the diagnosis of entero-colitis. In eight autopsies of this disease which I have had the opportunity to make, cerebral lesions coexisted, and either hemorrhagic effusions on the upper and anterior surface of the cerebrum or meningitis with more or less lymph, or both these conditions were found. The same result was anticipated in this autopsy, which was made twelve hours after death.

The child was neither emaciated nor œdematous. The mucous membrane of the intestines was soft, pale, and easily detached, and the whole intestine broke readily on slight tension. Peyer's patches and the mesenteric glands were normal. Spleen healthy. The liver was anæmic, of a light ochre-color, with some ecchymotic spots on left border, and remained unchanged by application of Tinct. iodinii. The lungs and heart were healthy. The brain showed deposits of lymph on its upper and anterior surface. The membranes about the pons varolii were inflamed. The spinal cord was not even congested. The kidneys, when examined, proved to be large, flabby, and anæmic, with a number of ecchymotic spots in the cortical substance. On microscopical examination, the tubules were found to be granular. The bladder was distended, and about two ounces of urine were drawn off and examined. It was very albuminous, sp. gr. 1017, and contained granular and hyaline casts, red blood corpuscles in profusion, and a variety of epithelium cells, mainly ovoid ones from the tubules.

The child had never had scarlatina. The case is therefore a rare one. It would be of great interest to determine whether the initial lesion occurred in the kidneys or intestines, or whether there was a blood lesion behind them both. Certainly no symptom, under the circumstances, would have led to the supposition of a renal disorder at any time of the disease.

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EDITORIAL.

THE MARINE HOSPITAL SERVICE.

AS the nature and object of this service are very commonly misunderstood, the following brief statement may be of interest:

By act of Congress, dated July 16, 1798, the sum of twenty cents per month was to be collected from every seaman, and the money so obtained was to be used to provide temporary relief for sick and disabled seamen. At that time wages were about one-third what they are at present, and the usual rate for the care of a sick man was between two and three dollars a week. As this cost rapidly advanced, it soon became impossible to take care of all sick seamen who presented themselves, and the fund was eked out by annual deficiency appropriations from Congress, which, however, were always insufficient to afford relief to all cases. The facts in the matter were stated to Congress by the Secretary of the Treasury in the fall of 1869, with the recommendation that the tax be increased to sixty cents per month. By act of Congress, approved June 29, 1870, the tax was increased to forty cents per month. The tax is collected by collectors and surveyors of customs of the various ports, and the expenditures from it are made under the direction of the Secretary of the Treasury.

It will be perceived, therefore, that the "marine hospital service", or service for the care of sick and disabled seamen of the commercial marine of the United States, is essentially an accident insurance company, in which the payment of premiums is compulsory, and that the business of the Secretary of the Treasury is to give as much relief as the fund will admit of, and, if it is insufficient to meet all demands (as it is), to select the most urgent and worthy cases to be aided by it. The fund belongs to the seamen,—not to the government. This being the case, if some applicants for relief must be rejected, how should the selection be made? The rule laid down by Mr. Guthrie, Secretary of the Treasury, in 1856, was that no person was entitled to relief "whose disease was incurable, or who, if cured, would be incapable of returning to his employment as a seaman." This, however, manifestly excluded those who most needed relief. In October, 1869, therefore, it was directed that cases of slight and transient disease, and of simple gonorrhœa, should be excluded from relief, while the regulation of Mr. Guthrie was practically done away with.

The modes of affording relief are essentially of two kinds. At a few ports there are marine hospitals, built, owned, and conducted by government. These ports are Portland, Me., Boston, Mass., Cleveland, O., Pittsburg, Pa., Detroit, Mich., St. Louis, Mo., and Key West, Fla. At the majority of the ports sick seamen are cared for by contract made with some hospital or private party, at rates varying from three to eight dollars per week. It will be observed that at the larger ports, where it would be specially advantageous for the government to have its own hospitals, it has none. At New York, Philadelphia, Baltimore, Charleston, Savannah, New Orleans, and San Francisco, the service is conducted by contract. On the other hand, the government had hospitals at Ocrakoke, N.C., Wilmington, N.C., Cincinnati, Louisville, Vicksburg, and Natchez. It has had two washed into the Mississippi River. Some of the above have been sold, and all should be. The objections to the contract system are, first, that sometimes the men are not well treated, but are put on the same footing as paupers; and, second, that they are improperly admitted and unduly retained in hospital for the sake of profit to the contractor. As the best temporary means of checking this evil at the larger ports, physicians have been employed during the past year to look after this matter, and the saving thus effected at New York, New Orleans, and San Francisco may be estimated at about $10,000.

There is little doubt that the system, as applied to ocean-going seamen, is a good one. The tax, in their case, is really so much saved from liquor-dealers and prostitutes; and, as they usually have no fixed homes and no money, it prevents their being a burden on our commercial cities. But with regard to steamboat-men and others employed on inland waters, the expediency of the tax is very doubtful, and it is hard to find arguments in its favor which would not apply equally to railroad-men or miners.

The whole subject is now in a transition state. New regulations have been prepared, and many reforms and changes have been made. For some desirable changes Congressional action will be necessary; but the most important thing at present is to provide for efficient medical supervision of the whole matter by the appointment of a supervising surgeon, as authorized by Congress,—which will probably be done within a short time.

CONTRIBUTIONS TO THE SYME TESTIMONIAL.

IT is no doubt known to many of our readers that a meeting was held in London in November, 1869, by the medical profession, to get up a suitable testimonial in honor of Professor James Syme, Esq., M.D., D.C.L., F.R.S. Ed., on his retirement from the chair of Clinical Surgery in the University of Edinburgh, after a tenure of thirty-six years. At this meeting, which was attended by many of the most distinguished physicians and surgeons of the British metropolis, it was resolved that the testimonial should be in the form, first, of a

fellowship for the promotion of surgery in the University of Edinburgh, to be called the "Syme Surgical Fellowship"; and, secondly, of a marble bust, to be placed in the University Library or in the hall of the new Royal Infirmary. The sum proposed to be raised for these objects is £2500. In looking over the list of subscribers to the testimonial, it is found to embrace the names of physicians and surgeons in all parts of the British empire, many of them the pupils of Professor Syme, now widely and beneficently disseminating the fruits of his teachings and of his example as a pure, upright, and conscientious Christian gentleman.

In April, 1870, Dr. Charles Murchison, F.R.S., Honorary Secretary of the London Executive Committee, addressed a letter to Professor S. D. Gross, begging him to take some steps to make the movement known among the profession in the United States, adding, "I do not desire large contributions so much as that Mr. Syme's merits should be acknowledged by the distinguished surgeons in America. I am sure that this would be a source of great gratification to him."

In compliance with this wish of Dr. Murchison, a meeting of the surgeons of Philadelphia was immediately held, and a plan of organization adopted, the executive committee consisting of the following gentlemen: S. D. Gross, M.D., Professor of Surgery, Jefferson Medical College; Isaac Hays, M.D., Editor of the *American Journal of the Medical Sciences;* Joseph Pancoast, M.D., Professor of Anatomy, Jefferson Medical College; Washington L. Atlee, M.D.; D. Hayes Agnew, M.D., Professor of Clinical and Demonstrative Surgery, University of Pennsylvania; Edward Hartshorne, M.D., late Surgeon to the Pennsylvania Hospital; John H. Packard, M.D., Surgeon to the Episcopal Hospital of Philadelphia; John H. Brinton, M.D., Surgeon to the Philadelphia Hospital; and J. Ewing Mears, M.D., Secretary of the Pathological Society of Philadelphia,—the latter acting as Secretary.

The circular addressed by the committee to the more prominent surgeons of the country met, for the most part, with a prompt and hearty response; and, although the sum contributed was small, the act shows how warmly the surgical teachers and practitioners of the United States sympathized with the movement of the British profession to do honor to a man whose name and fame are so closely interwoven with the progress of surgery in the nineteenth century. The subjoined letter of Professor Gross, and the reply of Dr. Murchison, will be read with interest:

"Philadelphia, October 1, 1870.

"Dr. Charles Murchison, F.R.S.:

"Dear Sir:—I have the honor, as chairman of the Executive Committee, to transmit to you a check for £45 7*s.* 9*d.*, the net proceeds of our collections in support of the 'Syme Testimonial Fund' in the United States. In casting your eye over the list of contributors, herewith sent, you will perceive that it embraces the names of some of the most distinguished teachers and surgeons of this country. The number might, no doubt, have been materially increased if sub-committees had been appointed in the principal cities of the Union, which, however, it was deemed best not to do. Most of the contributions are, in accordance with your suggestion, small, and must, therefore, not be regarded as at all expressive of our appreciation of the valuable services rendered to science and humanity by the illustrious Scotch surgeon whose memory they are designed to aid in perpetuating.

"With best wishes for your health and happiness, and the sincere hope that such acts as these, insignificant as they in themselves are, may serve to strengthen the bonds of good fellowship existing between American and British physicians, I am, very truly, your friend and obedient servant,

"S. D. Gross."

"79 Wimpole Street, London, W.
"28 October, 1870.

"My dear Sir:

"I have the honor to acknowledge the receipt of your letter dated October 1, enclosing cheque for £45 7*s.* 9*d.*, the proceeds of the collections in America in support of the Syme testimonial. I regret that my former master no longer lives to read the list of distinguished members of our profession in your great country who have united to do him honor. No honors, I am sure, that could have been conferred upon him would have given him greater pleasure and satisfaction.

"Allow me, in the name of the Committee of the Syme Testimonial, to thank you, and those who have so nobly aided you, for your generous aid to the object we have in view.

"I have taken the liberty of forwarding a copy of your letter to the *Lancet.* Such acts as these ought to be widely known; for they cannot fail to strengthen not only the bonds of good fellowship existing between American and British physicians, but also the ties of relationship between our two countries.

"I am, with great respect, yours most faithfully,

"Charles Murchison.

"Professor Gross, M.D., LL.D.

"P.S.—I enclose a formal receipt, and may add that the list of American contributors will be published in the final report of the committee."

VOLUNTEER MILITARY SURGEONS.

IT is sometimes amusing to note how volunteered aid may be tinctured with a not inconsiderable amount of selfishness. Thus, we find the services of quite a large number of representatives of the medical profession in England offered to and accepted by the Prussians, and probably disposed of in such a way as to conduce to the greatest good of the greatest number of sick and wounded. This end was possibly accomplished most effectually by distributing them among reserve hospitals and to points sometimes remote from the most stirring scenes of action. It is even probable that but few of these medical volunteers were allowed to participate in the labors of the army surgeons who accompanied the extreme advance. Many of them, doubtless, witnessed the results of primary operations several weeks after the wounds were inflicted, and felt aggrieved that no chance for distinguishing themselves as operators was afforded. They forgot that the Prussian medical organization at the front was so thorough that foreign aid seemed superfluous, and that it might be construed as an acknowledgment of weakness to accept it. And yet the complaint now comes to us from English surgeons that the Prussians are reserving to themselves all the best cases, and that English medical talent rarely gets the opportunity of treating such as are possessed of any surgical interest or value. Until we learn definitely whether the volunteer medical assistance from England was humanely offered for the

relief of the unfortunate and suffering victims of the war, or selfishly for personal considerations, in a comprehensive field for the use of the knife, we shall be at a loss whether or not to condemn the Prussians for their alleged incivility.

If there are many American surgeons at the seat of European war, they must either be thoroughly occupied by attention to their professional duties or be endowed with but little taste for the use of the pen; for scarcely a communication of any value has appeared from them in the journals of this country. As a general rule, the profession in America is sufficiently practical to act with vigor in emergencies, and to fulfil all the imperative duties incident to arduous practice; but it is not given to the concentration of its passing thoughts upon paper. So many able men have, however, gone actively into the medico-military service abroad, that we hope ere long to see published some intelligent *résumé* of current transatlantic medical history, peculiarly interesting at this time to the American medical world, which has so recently been occupied in studying the great lessons of our own civil war.

JUDGE THAYER'S CHARGE

IN THE CASE OF HAIRE vs. *REESE*.

WE quote from *The Legal Intelligencer* of November 4, 1870, the following charge of Judge Thayer, in the case of Haire *v.* Reese, a full account of which appeared in our last number (see page 73). It seems to us important that the profession at large should be made acquainted with this document, which might serve as a model, both for skill in summing up the essential facts of the case, and for the dignified tone of consideration for the medical profession which pervades it.

WILLIAM C. HAIRE v. *JOHN J. REESE, M.D.*

1. The implied contract of a surgeon or a physician who attends a patient is, not that he will certainly effect a cure, but that he will use all known and reasonable means to accomplish that object, and that he will attend his patient carefully and diligently. His relation to his patient implies that he possesses, and will employ in the treatment of the case, such reasonable skill and diligence as are ordinarily exercised in his profession by thoroughly educated surgeons or physicians; and, in judging of the degree of skill which he contracts to bring to the service of his patient, regard is to be had to the advanced state of the profession at the time.
2. No presumption of the absence of proper skill and attention arises from the mere fact that the patient does not recover, or that a complete cure was not effected.
3. On the part of the patient, it is his duty to conform to the necessary prescriptions and treatment, if they be such as a surgeon or physician of ordinary skill and care would adopt or sanction; and if he will not, or, under the pressure of pain, cannot, the surgeon or physician is not responsible for injury resulting therefrom.
4. When malpractice, or want of skill or proper attention, is charged against a physician or surgeon, the burthen of proving it lies upon the person who alleges it.

GENTLEMEN OF THE JURY: The plaintiff has brought this action against the defendant, Dr. Reese, for alleged malpractice as a physician and surgeon. The grounds upon which he alleges he is entitled to sustain this action for damages are that the defendant treated him unskilfully for his injuries, and that he did not give that diligent care and attention to his case which it was incumbent on him to extend to him, and which he had a right to expect. That is the question which you are to determine by your verdict.

The history of the case appears, from the evidence which is before you, to be this: On the 2d of February, 1869, the plaintiff, who is by trade a house-painter, was engaged in painting the outside of the House of Refuge, in this city, when the jack upon which he was standing accidentally gave way, and he was precipitated to the ground, a distance of twenty-eight feet, his body striking violently against a fence in its fall. The defendant, who is the attending physician of the institution, was immediately sent for, and he came promptly to his assistance. As soon as he arrived, he proceeded to take up the arteries in the head, which had been cut by the fall, and to stanch the bleeding of his wounds. When that was completed, he proceeded to examine the plantiff's hip, in which he was suffering great pain. The plaintiff groaned with pain under the examination, and the doctor thereupon advised that he should be removed at once to his own home, where he could be better provided for, and where a more thorough examination could, with greater facility and less pain to the patient, be made. At the special request of the plaintiff, he consented to attend him, and went in advance of the plaintiff to his home, in a distant part of the city, in order to prepare his family for the bad news which awaited them, and to make proper preparations for the reception of the patient. When the latter arrived, he was carried, by the doctor's directions, into the sitting-room and laid carefully upon a bed. The doctor then etherized him, in order to enable him to endure the examination to which he was about to subject him. He then proceeded to make a thorough examination of the injured parts, and, contrary to his own expectations, as he says, found, after making this critical examination, that there was neither fracture nor dislocation of the bones. After administering an anodyne to him, and directing an anodyne liniment for the hip, he left him for the night. The next day he visited him again, and made another careful examination of the hip, according to the doctor's testimony, but again found no evidences of fracture or dislocation. He prescribed liniments and anodynes, and directed him to be kept in a quiet condition. The doctor continued to visit him daily for a considerable time, making twenty-one visits in all. On the 24th of February, about three weeks after the accident, at Dr. Reese's suggestion, Dr. Agnew was called in to a consultation. He came, and made a thorough examination of the injured part. He resorted to every means known to surgery to ascertain if there had been a fracture. You will recollect the details of that examination, given to you by Dr. Agnew himself. The patient was first examined in a recumbent position. The parts were carefully manipulated and turned about; but there was no crepitation,—that is, no sound of grating of bones,—which is usually detected immediately by the practised ear of a skilful surgeon, where a fracture has occurred. The limbs were carefully measured and compared with each other; measurements of various kinds, and in different directions, were made, to ascertain whether the injured leg had undergone any shortening. The patient was then placed in an erect posture and again examined. His leg was swung backward and forward. In short, after subjecting the limb to all the tests usually applied in such cases, Dr. Agnew, as he has testified, was convinced that there was neither fracture nor dislocation. Dr. Agnew has stated in his testimony, in view of this thorough examination to which he subjected the plaintiff, that if there then existed a fracture it could not be discovered by any human means. Dr. Reese made his last visit to the plaintiff on the 10th of May. For the professional service which he rendered he has never received a dollar. On or about the 6th of August following, the plaintiff called upon Dr. Agnew at his office. Dr. Agnew then observed that there had been some shortening of the leg. When asked by Dr. Agnew when that shortening had commenced, he replied that "it was after he had got up to go about on crutches." Dr. Agnew advised him to get a high-heeled shoe, and to dispense with the crutches. He then went away. He rewarded Dr. Agnew for his services by bringing a suit against him also. Subsequently he went to see Dr. Gross, at the Jefferson College clinic, who prescribed an ointment for his leg; whereupon the plaintiff accused him of having poisoned him. He went also to see Dr. Duffie, who advised him to throw away his crutches and to get a high heel to his shoe. While Dr. Reese was attending him, he consulted other persons without informing him of it, and applied to his leg various nostrums which they recommended. He now charges Dr. Reese with the shortening of his leg, and seeks to make him responsible for it. You are to decide whether his charge is just and true or not.

Gentlemen of the jury, before I refer to the evidence in the cause, I will direct your attention to certain principles of law which are applicable to such investigations.

The implied contract of a surgeon or a physician who attends a patient is, not that he will certainly effect a cure, but that he will use all known and reasonable means to accomplish that object, and that he will attend his patient carefully and diligently. His relation to his patient implies that he possesses, and will employ in the treatment of the case, such reasonable skill and diligence as are ordinarily exercised in his profession by thoroughly educated surgeons or physicians; and, in judging of the degree of skill which he contracts to bring to the service of his patient, regard is to be had to the advanced state of the profession at the time. The defendant in this case was bound to use reasonable skill and diligence to effect a cure; and reasonable skill and diligence means such skill and diligence as educated and faithful surgeons or physicians ordinarily employ.

No presumption of the absence of proper skill and attention arises from the mere fact that the patient does not recover, or that a complete cure is not effected. God forbid that the law should apply any rule so rigorous and unjust as that to the relations and responsibilities arising out of this noble and humane profession! The medical man who is called to attend a patient undertakes to possess such knowledge and skill as are usually and commonly possessed by educated physicians, and to apply that skill and knowledge with all due diligence and care for the benefit and advantage of the patient. If his performance comes up to that standard, he has discharged his duty and is not responsible for results. On the part of the patient, it is his duty to conform to the necessary prescriptions and treatment, if they be such as a surgeon or physician of ordinary skill and care would adopt or sanction; and if he will not, or, under the pressure of pain, cannot, the surgeon or physician is not responsible for injury resulting therefrom.

When malpractice, or want of skill or proper attention, is charged against a physician or surgeon, the burthen of proving it lies upon the person who alleges it. In the absence of satisfactory proof to establish such a charge, the presumption is that he was competent for the task which he undertook, and did his duty to the best of his ability. This is the rule of common sense, and the rule of the law upon this subject. The burthen of proof, therefore, in this case, as in all similar cases, is upon the plaintiff. You are not to rush to conclusions detrimental to the reputation and interests of the defendant without competent proof. You are to decide the case by the evidence. You are sworn to give a true verdict according to the evidence. Your consciences must be satisfied by the evidence that the plaintiff's case is proved, before you can be justified in finding a verdict against the defendant. And I will add that it is your duty to weigh the evidence carefully, and to decide the cause according to the weight of the evidence.

Having thus pointed out the rules of law which are applicable to this inquiry, I will now proceed to make some references to the evidence which has been given, reminding you, at the same time, that you are the exclusive judges of the facts, and with you must ultimately rest the responsibility of deciding the cause.

The charge made by the plaintiff, as he has attempted to maintain it by the evidence, is that the defendant mistook the nature of his injury. He says that his thigh-bone was fractured, whereas the defendant assured him that it was not, and treated him as if it were not, the consequence of which was, as he alleges, the shortening of his leg. The proof upon which he relies to show that there was a fracture is, in the first place, the evidence of certain witnesses; and, in the second place, he says that the fracture is proved by the shortening itself. Now, it is apparent, from the testimony of all the surgeons who have been examined,—as well the plaintiff's as the defendant's witnesses,—that, in consequence of an injury such as the plaintiff received, shortening of the limb may result either from a fracture of the bone or from what is technically called *interstitial absorption*,—that is to say, the absorption of the extremity or neck of the femur, or thigh-bone, a result frequently arising from a violent contusion. If you believe the leg was shortened, then it will be proper for you to inquire whether it was the result of an actual fracture, or of absorption taking place in consequence of a contusion; because you will observe that unless there was a fracture the plaintiff's allegation of mistake or neglect on the part of the defendant in not ascertaining that fact is not made out. Let us, therefore, examine the evidence upon this point.

The plaintiff himself says, in his testimony, very positively that the bone was fractured. Now, it is for you to say how much weight is to be given to that statement, in view of the other testimony in the case. You will consider whether he could probably determine that point with as much certainty as the surgeons who professionally examined the limb. You will consider whether his assertion upon this point is of as much value as the testimony of the surgical experts who examined him. To me it appears a question much more difficult to be decided with certainty by the patient himself than by those who, from long experience and education, are accustomed to ascertain such facts by the scientific tests which they are accustomed to resort to in order to determine it. But the value of his testimony I leave entirely to you.

The first witness he called upon this point to sustain his own assertion was Dr. John Hirst, who is a graduate of the College of Surgeons of Edinburgh. He testified that he examined the plaintiff about two years after the accident occurred. He told him that he could do nothing for him; that he had no doubt that his case had been correctly treated, from the character of the gentleman who had attended him. He casually expressed the opinion, he says, that the leg had been fractured in the neck of the thigh-bone, and he formed that opinion, he says, from the shortening of the limb. According to his testimony, he based his opinion on that circumstance and what he had heard of the history of the case; he did not measure the limb. He further said that concussion may induce disease of the articulating head of the thigh-bone, resulting in interstitial absorption; and that will occasion a shortening of the limb. He further said that he thought the shortening was owing either to fracture or interstitial absorption. As a general rule, the limb would be very soon shortened by a fracture after the injury was received, but if shortened by absorption, the shortening would come on gradually. He also said that if he examined a patient and found that there was neither crepitation, inversion of the limb, nor shortening, he could not say there had been a fracture. Dr. Hirst does not appear, by the evidence, to have examined the plaintiff by means of the usual scientific tests described by the other surgeons. He looked at it two years after the accident, and gave a casual opinion, as he himself expresses it, founded upon a comparison, by the eye, of one leg with the other, and upon what he had heard of the history of the case. That appears to have been all the examination he gave it. It is for you to settle the weight and value of his testimony on this point.

The next witness called by the plaintiff was Moses Stevenson, who says he graduated in medicine in 1870, after studying two years. He says he examined the plaintiff's leg last winter, and believes that it had been fractured. I do not consider it worth while to dwell upon the testimony of this witness. You will recollect the exhibition which he made upon being cross-examined, saying, among other things, that "the head of the femur may be *crepitated* by absorption." In my judgment, his testimony is not worth considering, and was in the highest degree discreditable to himself. I dismiss him, therefore, without further comment.

The next witness called by the plaintiff was Dr. Joseph D. Scoles, whose testimony appeared to me to be both clear and candid. He says that he formed the opinion that the hip-bone had received an injury which occasioned the shortening of the limb; that this shortening may have been caused either by fracture or absorption, and that it is impossible for him to say which.

I have now given the substance of the whole of the plaintiff's testimony upon this subject of fracture or no fracture.

On the part of the defendant, Dr. Reese (the defendant) testified in great detail to the nature of the examination to which he had subjected the plaintiff immediately after the happening of the accident. I will not take up your time by going over it, for I am sure you will recall it. And after completing that examination, which appears, by his own statement, to have been very carefully and deliberately made, he came to the conclusion that there had been neither fracture nor dislocation.

Dr. D. H. Agnew, the distinguished professor of operative

surgery in the University of Pennsylvania, testified that he examined the plaintiff's limb about three weeks after the accident, and applied every test known to surgical practice to ascertain whether there had been a fracture, and was clearly of opinion that there was neither fracture nor dislocation. You will remember the description he gave you, at considerable length, of that examination, and of the various methods resorted to by him to determine the fact. He said that if there was a fracture at that time it could not be discovered by any human means. He says, moreover, after listening to the details of the treatment of the patient by Dr. Reese, that it was in all respects skilful and proper.

Dr. Gross, the eminent Professor of Surgery in Jefferson College, and a gentleman of great experience in the profession, testifies that he examined the patient at the close of a clinic, and came to the conclusion that the injury to the leg was the result of severe contusion. He further says that, if the bone had been fractured, the shortening of the limb would, beyond all question, have taken place within twelve or fifteen days after the accident. He also corroborated, to the fullest extent, the opinion of Dr. Agnew in regard to the skilful and judicious character of the treatment given to the plaintiff by Dr. Reese.

Dr. Duffie, also called as a witness by the defendant, and having also examined the plaintiff some time since, was distinctly of opinion that it was a case of absorption of the thigh-bone, a result which, he says, no remedies known to surgery can cure.

Dr. John H. Brinton, a well-known surgeon of long and large experience, testified, after hearing at length the treatment to which the plaintiff had been subjected by the defendant, that, in his opinion, it was perfectly correct and judicious, and said he knew of no other treatment for such a case.

The testimony of Dr. R. J. Levis was to the same effect. He says that the treatment was skilful and proper.

All the surgeons who were examined agree that, if there was no fracture, the treatment was perfectly proper; and they all agree that the only evidence of fracture was the shortening of the limb, and that shortening ensues with equal uniformity from absorption—the consequence of contusion—as from fracture, the only difference being that in the former case it comes on at a much later period in the history of the case than in the latter. You have then, on the one side, the positive statement of the plaintiff and the opinion of Dr. Hirst, founded upon an examination certainly not critical in its character, made two years after the accident, and upon what he had heard about the case. You have, upon the other, the opinions of Dr. Agnew, Dr. Gross, Dr. Brinton, Dr. Duffie, Dr. Packard, Dr. Levis, and Dr. Reese, the defendant.

You have also the important fact that there is no evidence that any shortening took place for a considerable period after the accident. Dr. Agnew is positive that there was no shortening when he first examined the plaintiff about three weeks after the accident, and that he did not observe that it had taken place until the plaintiff came to his office in August, about six months after the accident.

You ought to decide the case according to the weight of the evidence. If you are of opinion that the plaintiff's leg was not fractured, I do not see that there is any evidence that the case was not properly treated by Dr. Reese. I have a right to say, and I conceive it to be my duty in this case to say, that I see no satisfactory evidence that the treatment of Dr. Reese was not, in all respects, skilful, wise, humane, and proper. But I leave all the evidence to you, and you will decide for yourselves.

If, after looking over the whole case and weighing all the evidence, and applying the rules of law regulating his responsibility, to which I referred in the commencement of my charge, you conscientiously come to the conclusion that the defendant was guilty of any negligence or want of ordinary care and diligence resulting in injury to the plaintiff, of course you will not hesitate to say so by your verdict. But if, on the contrary, you come to the conclusion that the plaintiff's complaint is altogether unfounded, then it concerns not only the interests of the parties in the present cause, and not only the interests of public justice, but also the established medical fame of this city (a fame established by many examples of men great and distinguished in this profession, who have here lived and labored and died), that you put an end, so far as you can, to experiments, by unjustifiable lawsuits, against skilful, attentive, and humane physicians.*

CORRESPONDENCE.

THE THERAPEUTIC USE OF RATTLE-SNAKE-VENOM.

To the Editor.

My friend Dr. Horatio C. Wood has called my attention to the following letter, addressed to Dr. Coxe, and published in his Dispensatory, 1827, p. 664. Dr. Wallace's "provings" of Crotalus venom seem to me worthy of preservation. Yours,

S. Weir Mitchell.

"Fauquier, Virginia, 1824.

"After a review of animal, vegetable, mineral, and aerial poisons, relative and positive, in their immediate and remote effects on the three grand functions, animal, vital, and natural, —seeing that the horse and dog are said to improve on arsenic, that it fails to poison the falco-ossifragus; seeing that swine devour, in safety, rattlesnakes, regardless of their venomous bites; and that carbonic acid gas, deleterious in the lungs, is innocent—nay, salutary—in the stomach, I made myself *et alia* subjects of experiments with the poison of the rattlesnake (*Crotalus horridus*). My moral views of men, principles, and things forbade me pushing these experiments on others, whose safety is my professional study (not the wild play of philosophic fancy), so far as I extended them on myself. This animal substance is the true Samson of the materia medica, and I anticipate the time when rattlesnakes will be reared for medicinal purposes, as the poppy and palma christi are now. Old scholastic dogmas fly before modern science as chaff before the wind. I well remember when there was as much ceremony in giving a dose of calomel as christening a child in a country church. The effects of this poison are wonderful, as ethereal delights of long continuance (say for days), whereas the effects of opium, hyoscyamus, and lactucarium soon fade away; it reddens the blood, and makes the faded cheek to glow with the rose of youthful health; it is a great corrector of morbid resin of bile; it drives away typhus, and replaces the mind on her native throne to admire the beauties of creation and inspire the soul with physico-theology.

"N.B.—I mixed, by friction, in a glass mortar and pestle, the bags, venom and all, taken from the teeth of a large and vigorous rattlesnake, with some cheese, and then divided the mass into one hundred pills, of which I occasionally took, sometimes one, at other times two, three, or four pills a day. A general dropsy succeeded the first state of heavenly sensations, which has not, even at this day, fully gone off, being even now, March, 1827, subject to swellings in the evening. The diseases of the lymphatic and arterial systems are never benefited by the use of rattlesnake-poison, but the nervous and muscular systems are speedily roused into action; palsy is much benefited; old rheumatisms are removed or relieved; the passions of the mind are wonderfully excited; delirium in typhus fever, attended with mutterings (typhomania), is almost immediately removed, and a serene mind, expressive of pleas-

* It will be remembered that the jury, without leaving their box, returned a verdict for the defendant; the costs to be paid by the plaintiff. —Ed.

ure, follows. Melancholy is quickly changed into gay anticipations; old sores are uniformly injured; on one occasion the old cicatrix opened and was difficult to heal afterwards. An ideot (*sic*) became improved in intellect.

"JAMES WESTWOOD WALLACE."

NOTE ON FIBRIN.

TO THE EDITOR OF THE MEDICAL TIMES.

SIR:—The views of Alexander Schmidt concerning fibrin-formation by the admixture of blood-serum with the liquid of hydrocele have excited so much attention that it may not be uninteresting to trace out the fate of the same theory in the original investigations of Dr. Andrew Buchanan, of Glasgow. This gentleman published his observations upon the animal fluids in the *London Medical Gazette*, vol. xviii., 1836, and arrived at the same conclusions in regard to the production of fibrin that Schmidt has since promulgated, viz., that fibrin is formed by the mixture of serum of the blood with that of serous effusions. But we find him explaining the method of its production in a very different manner eight years afterwards. In 1844 he stated that fibrin is formed by the aggregation of minute molecules, which molecules originate in the mixed serous liquids. In other words, he considered the cyto-blastema of Schwann and Schleiden to be nothing more than a mixture of membranous and sanguineous serum, which had the power of producing these molecules spontaneously. As he and others have demonstrated these molecules to be always present before fibrin appears, and as spontaneous generation is out of the question, we must adopt the views of Carpenter and Beale, and regard these molecules as masses of protoplasm or germinal matter, which can only come from pre-existing germinal matter, but which, on account of their minute size, had been overlooked when the serous liquids were examined. The absence of fibrin in both of the serous liquids has not been sufficiently well proved to enable us to state positively that it is produced by commingling them. If both the serum and the liquid of hydrocele be exposed to a temperature of 150° F., which destroys the coagulating power of fibrin, and then mixed, if coagulation occurs it is proof positive of Schmidt's view; but I believe that this has never been done. The liquid of hydrocele, according to Paget, often coagulates spontaneously when removed from the body, so that fibrin must be present, and the addition of blood-serum only *hastens* the formation of the clot, and does not produce fibrin, as has been supposed.

There is a large field here open for experimental inquiry.

LOUIS S. STILLÉ.

1500 WALNUT STREET, PHILADELPHIA.

TRANSACTIONS OF SOCIETIES.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

AT a conversational meeting held October 26, 1870, 8 P.M., Dr. W. H. Pancoast, President, in the chair, a paper was read by Dr. James Cummiskey on the relation of chorea to rheumatism, which will appear in a subsequent issue.

Dr. Burns had seen a number of cases of chorea, but had observed no relation between it and rheumatism. The spine is affected in both. Counter-irritation to the spine is useful in both. There is simulated anæmia in chorea, but not in rheumatism.

Dr. Lee thought the embolism theory was a plausible explanation of the relation between chorea and rheumatism. The theory of Trousseau, that this relation was due to a morbid constitution of the blood, he did not consider tenable. If the cause were active through the blood, the nervous system would be more generally affected. The brain would be affected; this is wanting in true chorea. The spinal cord would be interfered with alike on both sides, and the movements would continue during sleep. In chorea the clonic contractions cease during sleep, and are frequently unilateral. In chorea you get no reflex movements on touching the sole of the foot; in disease of the spine the response is violent. Embolism probably does not occur in the senso-motory ganglia alone and nowhere else in the brain. Clots may not produce any perceptible effect. Very small clots, and even large ones, may be washed away; they do not necessarily produce sphacelus. The frequent occurrence of chorea in childhood seems to indicate its location in the senso-motory ganglia, as these ganglia are particularly prominent during this period of life.

Dr. Wittig said the one was a disease of the motor nerves, and the other of the fibrous tissues. Chorea, through its effect on the nervous system, might cause the retention of matter which would produce rheumatism.

Drs. O'Hara, Hamilton, and Burns thought that acute rheumatism occurred in the plethoric more commonly than in the anæmic.

At a conversational meeting held November 9, 1870, at 8 P.M., Dr. W. H. Pancoast, President, in the chair, Dr. L. K. Baldwin narrated a case of cancer of the vagina, which will be found in full at page 93.

Dr. A. H. Fish had seen a case in which the cancer was confined to the vagina where the disease returned in three or four months after removal; in a case of cauliflower cancer of the uterus there was no pain or offensive discharge. The case terminated in fifteen months.

Dr. Pancoast had a similar case, involving the uterus and vagina. In these cases, he said, death was generally from exhaustion. He suggested the use of the écraseur in the removal of the growths, and preferred the chloride of zinc as a disinfectant.

Dr. Burns thought the sudden death in Dr. Baldwin's case might have been from embolism.

In answer to a question by Dr. Stebler, Dr. Baldwin stated that the father of his patient had died from cancer of the stomach.

REVIEWS AND BOOK NOTICES.

LUNACY: ITS PAST AND ITS PRESENT, by ROBERT GARDINER HILL, F.S.A. Pp. 109. London, 1870.

Dr. Hill's object, in this little book, is to vindicate his claim to the distinction of having been the first to dispense entirely with restraints in a hospital for the insane,—a distinction not so fully recognized as it should have been. Most people probably suppose it belongs to Dr. Conolly; and Sir James Clark, in his memoir of his departed friend, claims it for him in unqualified terms. Dr. Conolly himself attributed this great step in the management of the insane to Dr. Charlesworth, who was the visiting physician at the Lincoln Asylum, while Dr. Hill was the resident physician. The latter has shown very satisfactorily that although the amount of restraint in that institution had been steadily diminishing under the supervision of Dr. Charlesworth, the total abolition was effected by him, Dr. Hill, and that he is entitled to all the credit, such as it is, which belongs to it. The extent to which restraint was once used, at no very distant period, almost passes the bounds of belief. From a table given by Dr. Hill, it appears that the total number of patients in the Lincoln Asylum in 1830 being 92, 54 were more or less restrained; that the whole number of instances of restraint were 2364, and the total number of hours passed under restraint were 27,113. In 1838 these tremendous figures were reduced to zero. Dr. Conolly signalized his entrance upon this special field of labor at Hanwell by adopting the practice he had witnessed at Lincoln, of total non-restraint. The large size of the hospital, con-

taining then, if we remember rightly, nearly 1000 patients, the distinction achieved by Dr. Conolly as a writer on mental disease, and his connection with the medical press, all combined to secure for the experiment a kind of *éclat* that strongly contributed to its further trial in other hospitals, and its final almost universal adoption in England.

Here, as is often the case with reforms that make *ad captandum* appeals to our benevolent instincts, there was a rapid passage from one extreme to the other; and such has been the force of popular feeling on this subject, that we are quite uncertain how far non-restraint is approved by those who use it. For ourself, we do not doubt that the private conviction is often at variance with the public practice. The system of non-restraint has been on its trial thirty-three years, and the result is that it has been adopted on the continent in hardly a single instance, to our knowledge, not at all in this country, and not universally in the British dominions. In the latter there are indications of a reaction in public sentiment, and the press is inquiring if the numerous and serious casualties reported by no less an authority than the Royal Commissioners in Lunacy are a legitimate consequence of the total abolition of restraint. In the *Pall Mall Gazette*, a few months since, there appeared an article on this subject that may be taken as a very significant sign of the times. In adverting to the management of some criminal patients in the Broadmoor Asylum, which had been complained of by the advocates of non-restraint, the writer says, "Now, it seems to us that, so far from no attempt being made at Broadmoor in the direction of indulgence and non-restraint, that system has been carried out further than humanity demands or prudence suggests. Even the other patients are afraid of associating with these men; and it appears almost fatuous for the Commissioners to go on year after year recommending that these lunatic convicts should be allowed a few more chances for killing or maiming the wardens and medical officers of the hospital." Such remarks, in such a quarter, afford a cheering sign that the reign of illusions is about yielding to that of common sense and true humanity.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, at its Twenty-First Annual Session, held at Philadelphia, June, 1870. Sixth Series, Part I. Published by the Society. Philadelphia: Collins, Printer, 1870.

The Transactions of the State Medical Society are made up chiefly of contributions from a class of physicians who but seldom write for the journals; for to the country practitioner is wanting the incentive to publication which his city brother finds in the constant appearance of a medical periodical, and these volumes are looked upon by many as the only media of communication with the profession. The purely scientific portion of the present volume—unfortunately only a very small part of it—is composed principally of reports of cases, all of them, with the exception perhaps of Dr. Gobrecht's, of only ordinary interest, while, on the other hand, the papers on general subjects are few and short. This is to be regretted; for the contents of the volume demonstrate that there are physicians practising in the interior of the State whose education and habits of close observation fit them for literary work of this kind. If the communications were upon subjects such as the modifying influence exercised by the soil and climate of different localities in this State upon disease, its treatment and prognosis, the series of which this volume forms a part would be infinitely more valuable than it is at present.

In the case reported by Dr. Gobrecht, above alluded to, the poisonous properties of strychnia appear to have been neutralized by the chloroform in which it was dissolved. Seven-eighths of an ounce of chloroform, containing, it was thought, fifteen grains of strychnia, were swallowed without the production of any other result "than complete and prolonged anæsthetization (*sic*) and some temporary numbness". It will be recollected that Dr. J. Hughes Bennett (*British Medical Journal*, October, 1870, p. 356) has recently demonstrated experimentally that if chloral be hypodermically injected after the administration of strychnia, no spasms will take place, but that, on the contrary, the animal will fall into a profound sleep.

A SYSTEM OF PRACTICAL SURGERY. By SIR WILLIAM FERGUSSON, BART.

This fifth edition of a well-known book is of special value, containing, as it does, the matured views of one who has practised surgery for forty years, and whose position is in the front rank of living surgeons.

Decided independence of thought, with great tolerance for the opinions of others, is stamped on every page. The views advanced are almost entirely practical, and eminently conservative, in the modern acceptation of that term. As a system it is incomplete, not professing to supply preliminary knowledge; and the book is therefore unfit to place in the hands of a beginner, being principally occupied with the operations and mooted points of surgery. Had it been entitled "Observations," rather than a "System," some chapters, treating superficially of primary doctrines, might have been omitted without detracting from the value of the work.

It is pleasant to notice that the work done by American surgeons is not unknown to our author, and to hear him mention as friends names time-honored among us. We are rather surprised to find no notice taken of the reduction of luxations by manipulation, nor of extension by a weight in the treatment of fractures of the thigh. From the results of his experience, the author does not hesitate to give it as his deliberate opinion that eight out of ten cases under thirty years of age, who formerly would have been treated for knee-joint disease by amputation of the thigh, are now best treated by excision of the joint.

As might be expected, the chapters upon resections and lithotomy are epitomes of the most advanced views on those subjects, and will be read with especial satisfaction as emanating from the hand of a master.

Though compelled to dissent from some of the opinions advanced, we feel confident that the reader of this volume will find the style pleasant and the matter instructive.

KRITISCHE UND EXPERIMENTELLE UNTERSUCHUNG DES NERVENEINFLUSSES AUF DIE ERWEITERUNG UND VERENGERUNG DER BLUTGEFAESSE. Preisschrift von Gustav Roever. Rostock, 1869. (Critical and Experimental Researches on the Influence of the Nervous System in the Dilatation and Contraction of the Blood-vessels. Prize Essay by Gustav Roever.)

We commend this brochure to all medical thinkers, as containing all that is at present known about the vaso-motor nerves, as being well written, well thought over, and thoroughly experimentally elaborated.

The most interesting point in it is the discussion of the *Nervus depressor* of Cyon and Ludwig.

This nerve arises sometimes by one, sometimes by two, roots, the chief root coming from the vagus, mostly in the angle made by the origin of the superior laryngeal, the other (often absent) from the sympathetic in the neck. When this nerve is cut and its upper end galvanized, there is produced immediate diminution in blood-pressure and frequency of heart-beat, the force of heart-beat remaining the same. The diminution of blood-pressure appears to be due to the enlargement of the arterial system, owing to a depression of the vaso-motor nerves. It is not owing to any action on the heart; because the result is unaffected by division of the vagi and complete separation of the heart from the cerebro-spinal and sympathetic nervous systems. The diminution of the number of the beats does not occur if the vagi be previously divided. The depressor is therefore an afferent nerve of a vaso-motor inhibitory centre, and appears to be especially connected with the lower half of the body; for no action was apparent when the spinal cord had been previously divided at the third dorsal vertebra.

PHYSICIAN'S PRESCRIPTION RECORD. S. W. Butler, M.D. Philadelphia, 1870.

This handy little volume is an attempt to supply a great need. All physicians have felt the importance of preserving a copy of the prescriptions given to patients applying for advice at their office, and yet but few take the trouble to do so systematically. This Prescription Record will greatly facilitate this desirable practice.

BOOKS AND PAMPHLETS RECEIVED.

A Sketch of the Early History of Practical Anatomy (Introductory Address). By W. W. Keen, M.D. 8vo, pp. 31. Philadelphia, 1870.

Syphilis of the Nervous System. By E. L. Keyes, M.D.

Reprinted from the *New York Medical Journal*. 8vo, pp. 44. New York, 1870.

Transactions of the American Medical Association. 8vo, pp. 612. Philadelphia, 1870.

Transactions of the Medical Society of the State of West Virginia. 8vo. Wheeling, 1870.

Partial Paralysis from Reflex Irritation caused by Congenital Phimosis and Adherent Prepuce. By L. A. Sayre, M.D. Extract from *Transactions of American Medical Association*. 8vo, pp. 9. Philadelphia, 1870.

Flower (W. H.). Introduction to the Osteology of the Mammalia. With numerous Illustrations. 12mo, 1870. MacMillan & Co., New York.

GLEANINGS FROM OUR EXCHANGES.

THE TREATMENT OF ULCERS AND OTHER GRANULATING SURFACES BY TRANSPLANTATION OF SKIN.—In the *Medical Times and Gazette*, October 29, may be found a paper on Skin-Grafting, by Mr. Dobson, of Bristol, and in the same issue, as well as in the *Lancet* for October 22, are recorded the results of this most important addition to modern surgery, as obtained in many of the London hospitals. This ingenious method for hastening the healing of ulcers which have resisted other methods of treatment was the invention of M. Reverdin, and it was first tried in London at St. George's Hospital last May by Mr. Pollock, since which time it has been widely adopted, and with unexceptionably favorable results when employed in suitable cases. The procedure is exceedingly simple, and may be thus described. Having waited until the wound or ulcer has assumed a healthy granulating appearance, a bit of the whole thickness of the skin, say the size of half a split pea, but without any of the subcutaneous cellular tissue, is pinched up from the inner side of the arm, and removed with a sharp scalpel or scissors curved on the flat. If the granulations are perfectly healthy and florid, the little bit is then pressed flat, with its under surface upon the granulations, and kept firmly applied by a strip of isinglass plaster passed across the ulcer. This form of plaster is useful in permitting the surgeon to see through it and watch the fate of the graft. Should the granulations be old and feeble, it will be better to follow the plan of Mr. Dobson, who divides on his thumb-nail the small bit of skin into five, seven, or nine pieces, as the case may be. He then makes a superficial incision into the granulations, waits until the slight bleeding has ceased, and inserts the grafts on the point of a needle. Care must be taken not to make too deep an insertion, or the graft may be entirely enveloped, and will be longer in showing itself. The plaster may be left for five days or a week, by which time the graft will have become firmly attached to its new bed, and perhaps, if very small, imbedded and hidden among the granulations. It will soon, however, become again apparent, and then, with a lens, the characteristic blue line of growing cicatricial tissue will be discerned surrounding it.

As regards the behavior of these minute portions of skin in their novel situation, Mr. Dobson, speaking generally, says, "At about the second day the cuticle begins to separate; by the fourth day only a faint pale spot marks the insertion, or there may be no evidence of it left at all; by the sixth day a faintly vascular tuft of granulation appears. This becomes glazed, and in a few days more the usual covering of cicatrix is formed. The patch is usually circular, and presents slight ridges, and continues to increase in size circularly until it reaches its maximum of growth; for it has a maximum of growth. I have never seen a patch larger than a florin, and I have now seen large numbers of them. I should say that their average growth will not exceed the size of a sixpence."

The size of the piece of skin grafted seems to be somewhat a matter of fancy. Mr. Dobson, for example, prefers to divide a bit not larger than half a split pea into from five to twelve pieces, and dot these over the surface of the granulations in such a manner and sufficiently close together as to speedily subdivide the original sore by their coalescence. At St. George's Hospital, Mr. Pollock uses minute portions, not exceeding millet-seeds in size. Mr. Mason, of the Westminster Hospital, prefers pieces of the size of a canary-seed. At the Charing Cross Hospital, Mr. Bellamy employs very small grafts. At the University College Hospital, Mr. Heath uses small bits, the largest being the size of a split pea; while Mr. Lawson has treated most successfully, at the Middlesex Hospital, two ulcers of the leg with grafts as large as sixpenny pieces.

As illustrations of this practice, we subjoin the following cases. The first eight are from the *Lancet*, and were under the care of Mr. Mason. The first case was that of a woman who for three years had an ulcer of the leg, measuring about four inches by three. Three pieces of skin of the size of a canary-seed were snipped from the front of the upper arm and simply placed on the ulcer, and retained in position by means of a strip of transparent plaster, and over this water-dressing and a bandage were applied. At the end of a month the ulcer had nearly healed, each of these pieces having in a fortnight attained the size of a fourpenny piece.

The second case was that of a man with a flabby-looking ulcer as large as the hand, situated in the groin. Four small pieces from the front of the upper arm were grafted. Three failed to grow, and the fourth, after one month, was only of the size of a pea.

The third subject was a woman with an unhealthy ulcer of the leg, extending nearly all around the limb. Four pieces were grafted, and they all failed to grow.

The fourth, a woman with an ulcer of the leg of four years' standing and two by three inches in size. Two pieces of skin were grafted, and in three weeks measured each a quarter of an inch in diameter.

The fifth, a man of middle age, with an ulcer of the leg, four by three inches in size, of nearly four years' standing, which was sloughing at the time of admission. Charcoal and linseed poultices were first applied, and the wound soon showed fairly healthy granulations, on which four pieces were grafted, and on the strips being removed, four days later, they were all found to have adhered. When seen eleven days after the operation, they were spreading rapidly.

The sixth, a girl, aged twenty, with a flabby ulcer on the thigh, of eight months' standing. Two pieces were grafted, with good result. In the seventh and eighth cases there were smaller ulcers, in which one piece only was grafted. They rapidly recovered.

In the second and third instances the failures arose from the trial being made upon unhealthy ulcers. A graft may, moreover, fail from some want of delicacy or from carelessness in the manipulation; for it is just one of those procedures which, though simple and easy of execution, require care and attention to minute details.

A typical example of healing of a large indolent ulcer from a burn occurred in the practice of Mr. Dobson. A lad, aged fifteen years, had received a fearful gunpowder burn of the abdomen, which, after the greater portion of the resulting wound had cicatrized, left a granulating surface eight inches long by five wide, which had for nearly six months refused to heal. Altogether, seven pieces of skin were removed from the inner side of the arm, which by subdivision yielded about forty grafts, by far the greater number of which lived in their new home. They were inserted pretty closely together, and in twelve weeks cicatrization was complete. In the following case, from the *Medical Times and Gazette*, a large graft was used:

"A man, aged twenty-four years, had been suffering from ulcers on the legs for three years, the sores sometimes healing over, but they had never been so bad as at the date of admission. (Middlesex Hospital.) On September 22, upon one of these ulcers, which had now assumed the appearance of a healthy granulating sore, two and a half inches square, Mr. Lawson grafted a bit of skin nearly as large as a sixpence, taken from the arm. During the first week the fate of the bit seemed uncertain, but by the seventh day it was clearly living, and more vascular-looking than before, and it thenceforward continued to spread rapidly. When we saw the man again, on October 18, the ulcer had completely healed, but the transplanted skin was readily discernible as a slightly-elevated island of natural-looking integument in the midst of a surface of glazed cicatricial tissue."

CHLORAL HYDRATE.—Dr. R. Wirth (*New York Medical Journal*, November, 1870) reports a case of tetanus successfully treated with this drug. The man was 32 years old, and had suffered from a scalp-wound, which had cicatrized nearly a month previously, but the affection was probably idiopathic, caused by a wetting received when in a profuse perspiration.

DIGITALIS.—Dr. Blair D. Taylor, of Bellevue Hospital (*New York Medical Journal*, November, 1870), reports a case of obstructive regurgitant murmur of both valves of the left heart, complicated with intense congestion of lungs, in which, on several occasions, the pulse having been lost at the wrist rapidly reappeared after exhibition of large doses of tincture of digitalis (f℥ss, repeated in 21 minutes).

CHEMICAL COMPOSITION OF BONES OF GENERAL PARALYTICS.—In this paper Mr. I. Campbell Brown (*Chemical News*, October 28, 1870) gives the following table of results obtained by himself, compared with the analyses of healthy bones by Valentin and Von Bibra:

Constituents.	Ribs of General Paralytics.				9 mos. fetus.	Osteo-malacia.	Adult tibia.	Adult ribs.
	1	2	3	4	5	6	7	8
Phosphoric acid,	23.52	22.85	19.09		23.31	16.89	24.24	25.95
Lime	29.57	28.54	25.25		28.98	22.20	32.98	34.43
Magnesia and alkalies	0.41	0.43	0.37		0.36	1.05	1.37	1.67
Carbonic acid .	1.55	1.29	2.09		1.10	1.71	3.37	2.90
Total inorganic constituents	55.05	53.11	46.80	49.46	53.75	41.85	61.96	64.95
Total organic constituents	44.84	47.02	53.05	50.54	47.15	58.16	38.02	33.97
	99.89	100.13	99.85	100.	100.90	100.01	99.98	98.92

On this the doctor remarks that, so far as can be judged from so few cases, the ratio of organic constituents is much greater, and that of lime to phosphoric acid is distinctly less, in the ribs of paralytics than in those of healthy adults, whilst there is generally a resemblance in the composition of such diseased bones to those of the fœtus and of cases of osteomalacia.

TREATMENT OF INFANTILE DIARRHŒA.—Dr R. W. Foss highly recommends (*British Medical Journal*) the use of the powder or mucilage of gum-arabic in the diarrhœas of infants. When the stools are green, or pure fluid and involuntary, he adds gray powder in the proportion of one part to twenty of the powdered gum, of which five grains are given as a dose. When there is simple diarrhœa, with fetid stools, one part of the mucilage to three of water is all that is required.

TREATMENT OF ENLARGED TONSILS IN CHILDREN.—Dr. James Martin states (*ibid.*) that an eminent Dublin practitioner finds the sulphate of potassa, administered daily for a month or six weeks, almost a specific for enlarged tonsils in children. From five to fifteen grains are given every morning, with a small quantity of rhubarb and aromatics. The dose should produce mere laxity of the bowels, and must be diminished if it causes purging.

EXTERNAL PRESSURE IN CASES OF LINGERING LABOR.—Dr. W. S. Playfair narrates (*Lancet*, October 1, 1870) two vertex cases of labor, in which Kristeller's method of external pressure upon the fundus of the womb was successfully put into practice. In one, a lingering case of right occipital presentation, six pains, thus assisted, sufficed to rotate and deliver a child of "immense size." In the other, a case of hydrops amnii, after full dilatation of the os, complete inertia ensued, for which ergot was ineffectually given. After placing the woman on her back and spreading his hands over the fundus of the womb, the doctor made downward pressure every five or ten minutes, with the result of effecting delivery in about one hour.

A NEW METHOD OF DELIVERING THE AFTER-COMING HEAD IN CONTRACTED PELVES.—In arrest of the head at the brim in original breech cases, or after version has been resorted to, Dr. William Goodell (*American Journal of Obstetrics*, November, 1870) advises the following method, which he has repeatedly found successful. After grasping the neck and ankles of the child, the first movement of traction is to be made in the direction of the axis of the *outlet*, in order that the sacral side of the head may descend and be nipped by the promontory at the highest point possible. This manœuvre lengthens the lever-arm, represented by a line drawn from the base of the skull to the point nipped by the promontory. Without for a moment relaxing the traction-force, its direction must now be changed to that of the axis of the superior strait, by firmly pushing the child's body backward upon the coccyx. Thus, the gain in the leverage will cause the pubic side of the head not only to glide more readily over the smooth under-surface of the pubic symphysis, but also to describe a shorter arc of a circle around the promontory as a centre of motion. After the extrication of the head from the brim, the line of traction must be accommodated to the curve of Carus. Great advantage will be gained if an assistant makes firm pressure upon the vault of the child's head through the abdominal walls of the mother.

BELLADONNA IN NOCTURNAL INCONTINENCE OF URINE.—Dr. J. Burney Yeo (*Lancet*, October 22, 1870) reports two cases of nocturnal incontinence of urine treated successfully with from fifteen to twenty minims of the tincture of belladonna given thrice daily. The first case was that of a lad, aged sixteen years; the second, a girl of the same age. The author is of opinion that the remedy acts in these cases as a tonic to the sphincter vesicæ.

A COMMON SOURCE OF LEAD IN DRINKING-WATER. (*American Chemist*, November, 1870.)—Nearly three years ago, Mr. S. Dana Hayes, State assayer and chemist of Massachusetts, had occasion to investigate the causes leading to the very rapid corrosion of the metallic ice-water pitchers which were made at that time in immense quantities, and of which large numbers are still in use, though they are being gradually supplanted by those lined with glass or enamel. He was then surprised to find them, to say the least, such a source of danger; and since that time he has seen several cases of lead poisoning attributable to no other cause than the use of water from these metallic pitchers. These pitchers, as is well known, are formed with double walls. The outer case and the side walls are of Britannia metal, and the bottom of German silver or copper soldered to the sides. The whole is more or less thickly electro-plated with silver inside and out. Now, when the inner chamber is filled with "common alkaline, aerated, or other corrosive water", it becomes a mild galvanic battery, increasing in power with usage, the sides being composed of tin, antimony, and copper, and the bottom of copper, or of copper, zinc, and nickel together, while the solder is composed of lead and tin. Of course in such a state of affairs the lead of the solder is readily attacked; and the author found a large amount of this metal in water which had been allowed to remain 12 hours in an old pitcher, though the water used, being from the Cochituate, was comparatively pure. One pint of water, after one hour in the pitcher, contained perceptible traces of lead. After four hours it contained 0.35 grains, after twelve hours 0.80, after twenty-four hours 1.45 grains. The author draws attention to the fact that this was equivalent to 2.80 grains per gallon even at the end of four hours, while less than 0.01 grain per gallon has injuriously affected health, and cites this as another proof of what M. Gueneau de Mussy insists upon, viz.: "That contact, even mediately, between lead and other metals should be avoided in the construction of all reservoirs destined for the conservation of water for family use."

DETECTION OF STRYCHNIA IN MEDICO-FORENSIC ANALYSIS.—The author (*Moniteur Scientifique*, August 15, 1870, *Chemical News*, *American Chemist*, November, 1870) relates at great length a case of poisoning with strychnia of a person accustomed to consume opium, and to whom had been given large doses of ipecacuanha, while, moreover, a portion of the contents of the intestines had to be tested for mineral poisons. The real bearing of this case, therefore, turns upon the detection of the strychnia in the presence of emetia and morphia. The strychnia was detected in an alcoholic extract of the materials taken from the corpse by means of the reaction produced by strong sulphuric acid and bichromate of potassa, which at first oxidizes only the emetia, and, this having been removed, produces the well-known purple coloration due to the action of the bichromate and sulphuric acid upon strychnia. The morphia was detected in a separately-made amyl-alcoholic solution by means of molybdate of soda dissolved in concentrated sulphuric acid.

Epileptic Guinea-Pigs.—Dr. Brown-Séquard has been still further experimenting on guinea-pigs rendered epileptic by artificial means. (*The Academy*, Oct. 22, 1870, p. 15.) These little animals become epileptic about nine days after section of one-half of the spinal cord or division of the sciatic nerve on one or both sides. The fits may be brought on at will by rubbing between the finger and thumb a portion of skin lying within a zone which includes the face, cheeks, and top of the head, and extends a short distance down the back, but misses the nose and ears. This zone is sharply defined by the immense quantity of parasites infesting it, this being due to the loss of common sensibility within the zone after the fits are established. Guinea-pigs subject to fits consequent on section of the spinal cord remain epileptic, although they can be cured by section of the skin within the zone; while the sciatic cases above referred to are cured in a year or a year and a half. In these last cases, the animal, which during the fits may have bitten the hind foot, tastes the blood, and nibbles off the two outer toes, the sensibility of which has been lost. The offspring of pairs thus affected have these toes absent; they become epileptic, and, on dissection, are found to have a node on the sciatic nerve similar to that developed after section of that nerve in the parent. Epileptic guinea-pigs also become liable to a dry gangrene of the margin of the ears, a similar affection to the othæmatoma of lunatics, and they transmit this condition to their offspring.

Development of the Heart.—Prof. Rokitansky, who has devoted much of his valuable time and attention to researches on the pathology of the heart, has been led to adopt new views in regard to the development of that organ, somewhat different from those usually received. He will ere long publish a work on abnormal conditions of the heart, his collection of specimens being said to be the largest in the world.

Tuberculous Ulcers of the Mouth (Note sur l'Ulcère tuberculeux de la Bouche et en particulier de la Langue). M. U. Trélat (*Arch. Gén. de Méd.*, January, 1870, p. 35).—After detailing a case in which the tubercular ulcer of the tongue preceded by six months a rapidly fatal general tuberculosis, the author makes the following remarks on its diagnosis:

A chronic ulcer, intractable, superficial, with red, irregular edges, without enlargement of neighboring glands, appearing without cause on the tongue or in the mouth, is very likely to be tuberculous. The probability is still greater if the patient is phthisical or tuberculous, or merely predisposed to tuberculization. The diagnosis is positive if there are also found on the mucous membrane of the mouth small round patches, slightly elevated, of a yellow color, and presenting one or more orifices of follicles over their surface, which still retains its epithelial covering. These patches are the first stage of the tuberculous ulcer.

He has established that, in some cases at least, these ulcers, known by the name of *buccal phthisis* or tubercular ulcers, are caused by ulceration of true tubercles; that they are always observed in tuberculous subjects, but that their appearance may precede that of the pulmonary tubercle, although the reverse is the general rule.

All treatment has as yet proved ineffectual; but Trélat recommends the use of the actual cautery at an early stage when the ulcer is small.

Chloroform in Tetanus.—M. Simonin, of Nancy, reports to the Academy of Medicine (*Arch. Gén. de Méd.*, June, 1870, p. 743) a severe case of traumatic tetanus cured by inhalation of chloroform. The treatment was pursued for 22 days, during which time 20 kilogrammes, 140 grammes of chloroform (equal to about 54 pounds troy, or 28½ pints) were employed. The only other treatment consisted of a few doses of opium and chloral. The diet throughout was nutritious.

Relapsing Fever in Edinburgh. By Claud Muirhead, M.D.—Dr. Muirhead furnishes (*Edinburgh Med. Jour.*, July, 1870, p. 1) an interesting analysis of forty cases of relapsing fever which came under his care in the Royal Infirmary, Edinburgh, during January last. The origin of the cases was traceable to contagion, and Dr. M. believes the period of incubation to be about five days. The patients were, without exception, well fed, and not one of them was emaciated. They had, however, usually been occupying dirty and overcrowded lodgings, so that Dr. M. concludes that overcrowding has much to do with the production of relapsing fever. In addition to the ordinary symptoms present, the following are noted particularly: Eruption was present in but one case of undoubted relapsing fever, and in one other of doubtful nature. Marked prominence and erection of the hair-follicles, especially over the abdomen and thighs, was, however, frequently noticed during the paroxysm. Herpes of the face, ears, and neck was present in a few cases during the remission. In many cases the skin emitted a characteristic odor. The paper is accompanied by interesting diagrams of the temperature, and also by sphygmographic tracings of the pulse in the different stages of the disease, showing the marked difference between the pyretic and apyretic pulse-line. The usual digestive disturbances were present, accompanied by occasional enlargement of the liver, and almost always of the spleen. Jaundice was present in but one case. The blood was altered, the number of white corpuscles being increased, and the red corpuscles tending to form irregular masses instead of rouleaux. Headache and intense neuralgic pains were uniformly present; while delirium manifested itself in but four cases. The urine was much increased during the second paroxysm. Albumen was found in four cases, though it was not tested for in all of the forty cases. But few complications occurred,—pleuro-pneumonia in one case and epistaxis in two cases. Among the sequelæ, the principal were enlarged spleen and neuralgia, though conjunctivitis, swelling of the glands in the groin and neck, and of the parotid, purulent otorrhœa, anæmia, œdema of the legs, and partial and transient paralysis also occurred. Numerous modes of treatment were employed in hope of cutting short the course of the disease. Emetics were given, but with no definite effect. Cold packing was employed, but its effects were not such as to induce Dr. M. to recommend it. Quinia, in very large doses, given both by the mouth and hypodermically, arsenic, nux vomica, and iron, were all given, but without the *slightest influence* upon the occurrence of the relapse. Only one case proved fatal, and in that the only marked lesions were found in the spleen, which weighed 13½ ounces, and was firm and congested and stuffed with coagula.

An Affection of the Joints appearing in the Course of Severe Hemiplegia. Dr. E. Hitzig (*Virch. Arch.*, xlviii. p. 345, 1869, in *Schmidt's Jahrb.*, Bd. 145, No. 1, 1870, p. 23).—Affections of the joints in the course of disease of the brain or spinal cord have already been noticed by Brown-Séquard, Charcot (*Arch. de Phys.*, Nos. 1 and 3, 1868, pp. 161 and 379; and 1870, No. 2, p. 306), B. Ball (in *Med. Times and Gaz.*, 1868, and also in pamphlet, Paris, Asselin, 1869). The author has himself met with seven cases, occurring in the course of hemiplegia. The shoulder-joint is principally affected, and there is flattening of the shoulder, with a transverse depression below acromion, as in paralysis of the deltoid; pain in arm, increased by movement, and by pressure over upper part of inner surface of humerus; movement of scapula when arm was used as a lever; severe pain on pushing humerus up into its position, with marked crackling and crepitation. He did not meet with it within four weeks of the attack of hemiplegia, and noticed that it occurred early in proportion as the patient had left bed early. He explains it by the pressure of the head of the humerus, which has sunk down against the articular surface.

The prophylaxis and cure of this joint-affection demand passive movements; electricity only acts by aiding these motions.

Practical Suggestions for the Treatment of Lachrymal Diseases. By Dr. C. R. Agnew, in *Medical Record*, October 15, 1870, p. 367.—The author denounces external incisions in suppuration of the sac, as unnecessary, inelegant, and as liable to lead to fistula, and should never be made if they can be avoided. Two methods are presented for choice: one is to slit up the lower canaliculus from punctum to sac, and thus evacuate the matter; or, if that be prevented by excessive swelling, to make an incision behind the commissures of the lids, between it and the caruncle, where the cavity can be reached with the greatest ease, without embarrassment in the after-treatment of the case. To destroy the sac, access must be gained to its cavity, and the actual or potential cautery applied as far down the nasal duct as possible. To effect this,

both canaliculi should be slit up, and any intervening portion of sac-wall freely excised. With a small strong scalpel, a sweeping cut is then made upwards and downwards, so as to split the wall of the sac that looks towards the eye, until a retractor can be introduced into the wall of the sac. Nitric acid or potassa fusa is then applied until no living mucous membrane is left. From neither of the above methods could it be determined from any external or conspicuous sign that an operation for the exposure or destruction of the sac had been performed.

A Gigantic Mushroom. — Dr. Wilwitsch (*The Food Journal*) has recently met in Africa with an enormous edible fungus. It is said to be as large as an umbrella, a single one sufficing for the supper of twenty men. The flavor of the flesh is very delicate. In the Præsidium of Bong-Andongo the plant is sold in market at 1*d.* to 3*d.* apiece. It is a true undescribed agaric.

M'Bondou, or Icaja: an Ordeal Poison of Gaboon.— In their experiments with this root, which they themselves had collected, Messrs. Rabuteau and Peyre (*Pharmaceutical Journal and Transactions*, from *Comptes Rendus*) chiefly used an extract of the bark, the alcoholic being found the preferable. Both the wood and bark were found to contain one or more alkaloids. According to these observers, icaja acts upon the spinal marrow, not affecting the muscles directly. In frogs the first stage of action is a partial paralysis or paresis, so that the animal jumps but feebly and with difficulty. If the dose be sufficiently large (three milligrammes), a state of excitability now appears, so that the least shock causes tetanic convulsions: these are accompanied by rigidity, not so pronounced, however, as in strychnia poisoning. In dogs and rabbits the poison produced "shocks", "like electric shocks", with panting, paralysis of hind legs, and great general muscular weakness. There was no loss of consciousness; but any effort of the dog to respond to caresses or its master's voice brought on violent convulsions. Death occurs in the midst of convulsions, from asphyxia. The elimination of the medicine is very rapid, the symptoms subsiding in two hours. The authors think the symptoms most closely resemble those caused by brucin, of all the known alkaloids.

Normal Position of the Uterus. By Credé (*Arch. f. Gynäkologie*, 1870).—In order to determine the normal position of the uterus after delivery, Credé has analyzed the results of 3000 examinations made between the tenth and fifteenth days after childbirth. In 397 of these women he found the uterus anteverted, in 326 anteflexed; but these numbers the author states would have been doubled, if formerly, as now, the slighter degrees of deviation had been recorded. In only 28 cases (not 1 per cent.) was retroflexion observed. Numerous post-mortem examinations of infants and young girls have confirmed Aron's statement, that the uterus is normally slightly anteflected, which explains the tendency "in puerperio" to this deviation in position, which may be regarded as normal, and not due (as Prof. Martin affirms) to defective involution of the placental attachment. Credé thinks that retroflexion of the organ is always abnormal and caused by relaxation of the uterus, profuse hemorrhages, a too capacious pelvis, a want of tonicity in the posterior vaginal walls, or to rupture of the perineum. Bidder agrees with Credé with regard to the frequency of anterior deviations after delivery. He found anteflexion in 20 per cent., anteversion in 46 per cent., while retroflexion existed in only 1.4 per cent. The careful drawing lately published by Kohlrausch, made from the section of a frozen female body, also represent the uterus as slightly anteflexed.

Hæmatocele and Hæmatometra. (Olshausen, *Archiv. für Gynæcologie*, vol. i.)—In the last edition of his text-book on Diseases of Women, Scanzoni states that during twenty years' practice he has met with only three instances of pelvic hæmatocele; Hagenberger only records two in 597 cases; while Credé, in 293 cases, has never been able to satisfy himself of its existence. In contrast with these statements, Olshausen, in a recent paper, founded on 769 cases which occurred under his own observation in the lying-in hospital at Halle, reports twenty-nine instances of this disease (nearly four per cent.). He urges as diagnostic marks, the seat of the tumor, which is almost invariably behind the uterus; its form, which is usually globular, but often presenting small irregularities of surface; its slight susceptibility; and its changing consistence, during the first eight days being always elastic and often fluctuating, then gradually becoming firmer and doughy, and finally almost solid. Among the subjective symptoms are the previous menstrual irregularities, sudden and alarming prostration, followed by symptoms indicating pelvic peritonitis. He confirms the views of Bernutz and Goupil regarding the possibility of the blood regurgitating from the uterus along the Fallopian tube into the abdomen, by the detailed history of a case of Atresia vaginæ following typhoid fever, with hæmatometra and subsequent hæmatocele; paracentesis was performed, fatal peritonitis ensued, and a post-mortem examination proved clearly the passage of the blood along the distended Fallopian tube into the abdominal cavity.

Cysticerci in Brain.—In a paper on Facial Paralysis, by Roberts Bartholow, M.D., in the *National Medical Journal*, April, 1870, vol. i. No. 1, p. 1, a case is related where the patient suffered with partial right hemiplegia and complete right facial palsy. At the autopsy, five cysticerci were found in the brain, three of them deeply imbedded in the gray matter of the outer and superior portion of the right and left hemispheres, one in the right optic thalamus under the ependyma of the ventricle, and the fifth on the left side of the floor of the fourth ventricle, in which it made a deep indentation. A spot of softening, about the size of a filbert, also existed in the left corpus striatum. The cysticerci were uniform in size, being about as large as a full-grown filbert. They presented the ordinary characteristics of these bodies, and, as usual, were barren.

The author is disposed to explain all the paralytic symptoms by the pressure of the tumor on the floor of the fourth ventricle, without attaching any import to the patch of softening in the left corpus striatum.

MISCELLANY.

Medical literature will be deprived of one of its main sources of supply as long as Paris is beset by the Prussians; nor will the paralyzing effects of the war be done away with for a long time after peace is declared, on whatever basis. The *Gazette Médicale* has suspended publication, and so, we presume, have all the other medical journals. No books have been received from Paris for several months. *Inter arma silent leges.*

At the meeting of the trustees of the University of Pennsylvania on Tuesday, December 6, it was agreed that the degree of Doctor of Philosophy be conferred annually, at the commencement in July, upon such graduates of medicine as had attended two full courses of lectures by the Auxiliary Faculty of Medicine and passed a satisfactory examination thereon. It will be remembered that the lectures of this faculty embrace: Geology, Botany, Zoology and Comparative Anatomy, Medical Jurisprudence and Toxicology, and Hygiene.

A National Medical Convention of volunteer medical officers, contract and commissioned, of the United States Army and Navy was to have met in Washington on the 15th of December, but it has been postponed until the 18th of January. The projectors of the movement aim at including in the organization every medical officer who served in the late war, and making it a permanent association. All who approve of the plan are requested, if they cannot be present in person, to send their names to Dr. T. B. Hood, Washington, D.C.

Heavy Damages.—Suit was recently brought against the city of Philadelphia by a Miss Williams, for damages on ac-

count of an injury sustained by her in May, 1869. She was watching the lowering of a water-wheel into its place, when the shears swept round and struck her on the leg, "fracturing it in a frightful manner, and laming her for life." The jury awarded her $10,000 damages.

An ordinance establishing rules and regulations for the government of the Philadelphia Morgue was duly signed by the mayor, having passed both branches of the City Councils, and goes into effect on the 1st of January, 1871. The building is at the northwest corner of Beach and Noble Streets, in the Eleventh Ward. It would be well for medical practitioners in the city to acquaint themselves with these rules.

The friends of homœopathy in New York State are working hard to get an insane hospital established, to be conducted in accordance with their tenets.

We learn from the *British Medical Journal* that "among the most recent additions to the ranks of the medical profession in New York are Lum-Ling-Wan, Doctor of Medicine, Ah-Mok, Ah-Sam, and Lu-Sing. The two are apothecaries, and the last is interpreter. They are well provided with a varied assortment of drugs. It would probably puzzle our own medical council to register these gentlemen; but no such difficulties will exist in America."

We think the city meant is not New York, but San Francisco, where the Chinese most do congregate, and where alone a reasonable degree of success might be looked for by such adventurers. And we fail to see where the difficulty would come in as to "registration." The same rule would apply to these as to other quacks, of whatever nationality,—British, for instance; they would not be registered at all. We doubt if the Chinese would be patronized, unless possibly by their own countrymen, to a sufficient degree to keep them alive.

Baron Diergardt, of Bonn, who lately gave the German Hospital in London the sum of £10,000, has made a like donation of $50,000 to the institution of the same name in New York.

In the examination of candidates, whether for the army or navy medical service, a feature of acknowledged importance is the bedside examination, the applicant being called upon to make out a diagnosis and to sketch a plan of treatment in an actual case. In the examinations for degrees in our schools this is not done, at least in most of them; and, indeed, it would involve the necessity of access to a hospital ward. We hope the day is not far distant when every school will have its hospital, and then that evidence of the bedside experience of the student will be indispensable to his graduation. The mere ability to answer questions does not insure that practical tact, a foundation for which is best laid by familiarity with actual disease during the whole course of student life.

The Psychological Section of the British Medical Association held their first meeting in August last, at the thirty-eighth annual session of the parent body, in Newcastle. Dr. Laycock presided. Papers were read on chorea, syphilitic insanity, the use of the thermometer in the diagnosis and treatment of insanity, the etiology of general paresis, and on delirium tremens. We presume that in this country the Association of Superintendents of Insane Asylums, now in operation for some years, corresponds pretty nearly, in objects, membership, and organization, to the "Psychological Section."

The "New York Society for the Relief of Widows and Orphans of Medical Men" had a dinner at Delmonico's on the 29th of November, it being their twenty-eighth anniversary. The annual statement showed the society to be in a prosperous condition.

Attention is called by Dr. Lawson Tait, in the *British Medical Journal* of September 24, 1870, to the possibility of the spread of the scarlet fever and other contagions by means of milk; the oil-molecules of the cream being, like any other oily substances, very ready solvents of odoriferous matters, and perhaps, therefore, of the particles by which diseases are communicated.

In one of the daily papers we find an account, evidently by a medical pen, of a case of "hydrophobia cured with chloral hydrate." One element of the treatment was a warm bath every three hours, "to get him used to water." The narrative concludes as follows:

"He was kept more or less under the influence of chloral hydrate four days. In a week he was well. The chloral hydrate co-ordinated the entire nervous system." * * * * "The physician who thoroughly understands the physiology of the nervous system has in chloral hydrate the greatest agent ever discovered for allaying nervous irritability of an acute character, and a certain balm for soothing acute mental aberration."

Vivisections.—The following resolution is reported as having been passed at a recent meeting of the General Committee of the British Medical Association:

"*Resolved*, That the Committee of Section D be requested to draw up a statement of their views upon physiological experiments in their various bearings, and that this document be circulated among the members of the Association; that the said committee be further requested to consider, from time to time, whether any steps can be taken by them, or by the Association, which will tend to reduce to its minimum the suffering entailed by legitimate physiological inquiries, or any which will have the effect of employing the influence of this Association in the discouragement of experiments which are not clearly legitimate on live animals."

Mortality of Philadelphia.—The following statements are condensed from the Health Office Reports:

	For the week ending	
	Nov. 26.	Dec. 3.
Diseases of the Brain and Nervous System	37	33
Diseases of the Organs of Circulation and Respiration	94	113
Diseases of the Abdominal Organs	23	19
Zymotic Diseases	14	11
Constitutional Diseases	5	8
Casualties	9	6
Stillborn	13	16
Unclassified	43	50
Unknown	2	0
Adults	130	140
Minors	110	116
Totals	240	256

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 18, 1870, TO DECEMBER 3, 1870, INCLUSIVE.

Magruder, D. L., Surgeon.—By S. O. 224, c.s., Headquarters Department of the Missouri, granted leave of absence for *thirty days*.

Cowdrey, S. G., Assistant-Surgeon.—By S. O. 221, Headquarters Department of the Missouri, Nov. 22, 1870, to proceed to *Fort Gibson*, C.N., and report to the commanding officer of that post for duty.